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# editorial

**W**e are performing something of an experiment with this issue. Alongside our usual collection of standalone component reviews, we are trying out complete system features. We have selected several complete front-to-back systems, at prices ranging from the (almost) mild to the distinctly (wild), all put together to sound good.

One of these systems came from a single distributor. One came from a dealer who pieced together the system with care. One came from balancing out products with very different sonic properties, and one was highlighting the return to the UK of an outstanding loudspeaker brand, and wrapped a highly successful system around that launch. All are pieced together with great care and attention, rather than thrown into the ring by virtue of lowest possible price.

In truth, we're not sure how such system features will play with you, the reader. We've tried these before with mixed success – people like the idea of a system-related approach to audio reviewing more than they like the actual mechanics of system-building. We welcome your emails on this topic – should this remain a one-off, or should it be a regular fixture in the magazine?

I think this move to a more systemic approach is becoming increasingly popular. People are building systems from scratch (in part because audio has become more fluid and changing today) and doing so with greater forethought than the 'throw it all together, it all works' approach of old. The systemic approach was what kept Linn and Naim at the top of the audio tree during the 1980s,

and we've all learned their lessons well. Whether it's system building from scratch, refreshing an existing system with new products, or simply trying to bring all the products in line through careful treatment and tuning, this more considered approach to audio has become a part of the mainstream, and long may that continue to be the case!

Paradoxically, it's harder to make big mistakes in today's audio world. Most products are well engineered and intercompatible, but the more you think about audio systemically, the further you get from mediocrity.

Our congratulations go out to the winners of our latest competition, in association with our friends at HiFiMAN. Mark Ramos of Edinburgh received a pair of excellent HE1000, Neville Midwood of Milton Keynes wins the super HM901S, while Tan Wee Hiong of Singapore, Michael Wiseman of Missouri, and Anthony Kimball in New York all receive a pair of superb HE400S. Well done!

Alan Sircom  
editor@hifiplus.com

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Or email them to [editor@hifiplus.com](mailto:editor@hifiplus.com)

# incoming!

in association with **audioquest**

## LETTER OF THE MONTH WINS A DRAGONFLY

Both AudioQuest and *Hi-Fi+* are passionate about music and the sound it makes. We know what makes a good audio experience, and we know what makes it better. Most modern audio equipment is good, but with the right attitude, right advice, and the right components, the sound it delivers can move from 'good' to 'great' to 'fantastic'. AudioQuest has to deal with a lot of queries regarding audio systems, because almost everything in an audio system is connected with a cable. The company has amassed a wealth of information on a range of topics in audio, both in general terms and with a team comprising keen, specialist audio experts willing to impart their expertise.

Which is why we've teamed up with the good folks at AudioQuest to award the letter of the month a free AudioQuest Dragonfly.

### To boom, or not to boom

I would like to explore the possibilities of room acoustic treatment. I am hopeless at DIY, so I am looking to buy off the shelf, and I like my existing system (a Naim UnitiServe and SuperUniti on a two-tier Fraim, to a pair of PMC twenty.24, using Tellurium Q Black speaker cable), so I do not want to include a DSP-based solution. My room is 12' x 18' x 9' (the speakers firing down the 18' length) with the right side wall and the rear wall behind the loudspeakers solid brick and the others are partition walls, the floor is engineered wood laminate, with a rug, and the room is relatively sparsely furnished. The loudspeakers are three feet out from the back and side walls with a slight toe-in, but my chair is up against the rear wall. The sound is echo-y, bright, and the bass seems very powerful.

Although ideally I should get an acoustician to measure the room, I cannot afford both that and the treatment itself. So what basic recommendations would you make in order to tame the boominess and the rest of the problems?

**Robert Sherman, via email**

*First things first, if it is at all possible, move your chair further into the room and toe the speakers in accordingly. We would recommend moving the chair to about 6'10" (2.08m) from the rear wall on an 18' long room, which should balance out peaks and nulls at the listening point. Be prepared to experiment in this position, a 'nudge' (approximately an inch or 2.5cm) forward or back can make a difference.*

*Your room may need some form of broadband bass trap in the corners of the room, if the bass is excessive. We'd say start with two (one in the*



*corners behind the loudspeakers) or four (one in each corner of the room), and if the bass is still wayward, you might end up doubling this figure. These are pretty much a universal recommendation for those starting out with room treatment.*

*From here, the usual recommendation is to treat the first reflection points along the walls, floor, and even ceiling with diffusion panels unless the stereo imagery is very flat and narrow sounding, but the 'echo' issue might need resolution first. If this echo is a zingy, reverberant sound (like you hear when clapping your hands in an empty bathroom), it's known as 'flutter echo' and can be corrected with smaller dedicated panels along the joints between floor and wall, and ceiling and wall. You might also want to consider some kind of diffusion/absorption on the wall directly behind your head. Individual panels and kits are available for all these room treatment requirements.*

**Robert Hay – AudioQuest**



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## ► Record Store Daze?

I have an on-again, off-again relationship with LP. I played nothing but vinyl until about 1991, I sold all my records and bought a CD player, then bought all those records back again in 2000, put them in the loft about five years later, only to pull them out again about two years ago. And, despite all the hype surrounding records, I'm about ready to put them back in storage again.

My problem isn't the sound quality, although new releases on LP are very hit and miss. It isn't the wear on LP or stylus, and it isn't the pops and crackles. It isn't even the costs involved, although why I pay handsomely for something I can get for basically 'free' is lost on me sometimes. I like records. I like playing records, and I prefer the sound of music played on my record player than I do through my computer and DAC.

So what's changed? It's the rebirth of the attitude that always came from people behind the counter at record stores. Do you remember that sullen, self-important, record store Stalin, who knows more about your music than you do and is determined to score points by belittling you? The guy played by Jack Black in the movie *High Fidelity*? Well, he's back, and is working in my local record store. To make matters worse, he's my son!

**Mike Irvine, via email**

*While I'm fortunate that (to the best of my knowledge) no relatives are in the music retail business, I can only sympathise. Like many of a certain age, I've been thoroughly belittled by the resident record store Power Ranger with infinite knowledge and no visible means of filtration. I can imagine that must be made infinitely worse when it's your*

*own flesh and blood behind the counter. Just remember that while he might have the upper-hand in terms of music knowledge (or he wouldn't be there), you still have the power to embarrass him by telling everyone else at the counter that he's the 'fruit of your loins' in a very loud voice.*

*Record stores do occasionally have moments of pure magic for the shopper, although probably not in your case at this shop. At one point a few years ago (before the LP rebirth took place) I handed over my latest group of very random CD purchases, and the guy behind the counter said two things that made me feel a foot taller, 20 years younger, and two dozen pounds lighter: "nice," he said with an approving nod at the Richmond Fontaine album, and then "what's this like?" of a Bugge Wessletoft album. I swear I could have kissed the guy. Let's hope it wasn't your son. – Ed*

## SACD is still the one for me!

Although the trend is for downloading and playing DSD tracks through a PC, I still thoroughly enjoy SACD. I've noticed, however, a distinct downturn in the number of SACD players reviewed in *Hi-Fi+*. Please don't follow the trend and ignore this important format.

**Paul Frears, via email**

*We have no problem with SACD players, but we are largely constrained by the industry itself. There are many companies who make SACD players, but the numbers are starting to diminish as it gets ever harder to obtain the technology required to play the discs. While Accuphase, Esoteric, OPPO, TAD, Yamaha, and more will continue to support the format, other brands are finding it next to impossible to purchase the transport mechanisms and proprietary decoding technology required to build a new player from scratch, and even existing high-end models do not have an assured future. We wish the situation was more hopeful, but unless some of the keepers of the SACD licenses and technologies change their respective minds on supplying OEM products, SACD replay begins to look as if it has a bleak long-term prognosis. – Ed*

## The Masters of the Universe

How much was the most expensive system you've ever heard? How much did the very best hi-fi system you have ever heard cost? Could you make as good a sound for less money?

**'David St Hubbins', via email**

*The most expensive system I've heard cost well over a million dollars. The best system I've heard cost about a quarter of that sum, and while I could get close with careful planning for less, it would still cost as much as my mortgage! – Ed*





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## CanJam London 2015

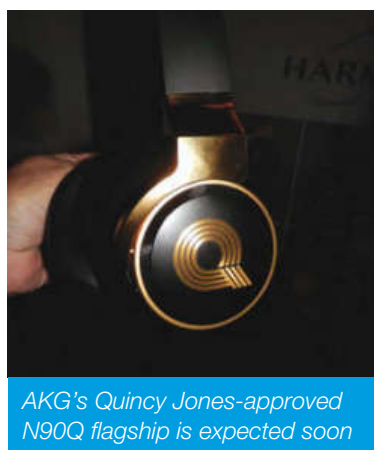
by *The Hi-Fi+ team*

**T**he Hotel Russell in Russell Square in the heart of London's Bloomsbury was the venue for the first ever CanJam outside of the United States. The event, held over two days at the end of August, saw two large ballrooms filled with the finest in headphones, earphones, in-ear monitors, DACs, amps and more, from some of the most important manufacturers in this exciting sector of audio.

What was easy to pick up from this show was an exciting vibe, not often felt in more traditional two-channel audio events. The people were a generation younger than their hi-fi counterparts, and were keen and enthusiastic. Many arrived with several thousand pounds worth of equipment that they

used to evaluate the new audio gear on show. And as to the show organisers and exhibitors themselves... there was none of the snobbery and fierce rivalry sometimes seen When Egos Collide. It was an event well worth attending, and many who arrived sceptical went away with a pair of expensive custom-fit in-ear monitors on order!

*Hi-Fi+* was a proud sponsor of this first UK CanJam, and judging by the success of the first event, there will be more to follow. Already, headphonistas from around the world are clamouring for a CanJam of their very own, and this quiet revolution is growing louder by the day. Here are just some of the highlights of the show. For more details, go to [www.hifiplus.com](http://www.hifiplus.com) +







Hi-Fi+ Publisher Chris Martens with audiologist Gisele Flower from Aid2Hearing



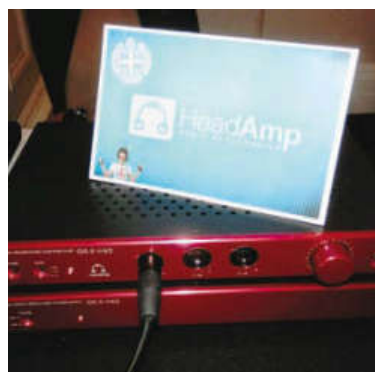
The unique \$200 HyperDynamic earphones feature both dynamic and piezo-electric drivers



Chord Electronic's Hugo TT was one of the most talked about DACs at the show



Jerry Harvey has expanded its Siren-series to include the new top-tier Layla (\$2,595) and the Angie (\$1,299 CIEM, or \$899 universal-fit)



HeadAmp's brand new balanced GS-X mk 2 headphone amplifier



Snugs is a laser-guided way of making custom in-ear monitor tips



Astell & Kern's new £899 universal-fit Angie IEM (from Jerry Harvey Audio) is said to offer monitor-quality sound, to match its popular range of players





Noble Audio allowed direct comparisons of its range of custom in-ear monitors



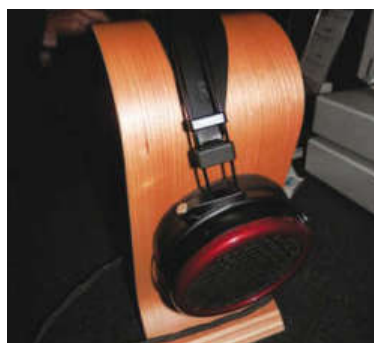
Beyerdynamic has long been at the forefront of professional audio, and the new £699 DT 1770 Pro shows why



Acoustic Research £899 M2 portable digital audio player/headphone amplifier



Scottish earphone experts RHA were on hand to give advice, show off the latest products... and enjoy their quality audio magazine of choice!



MrSpeakers new £1,150 Ether open-back planar magnetic headphones



Final's new flagship – the £3,499 Sonorous X dynamic headphones



Questyle previewed CMA600i desktop, balanced output headphone amplifier and high-res, native DSD-capable DAC, which will sell for \$1,250



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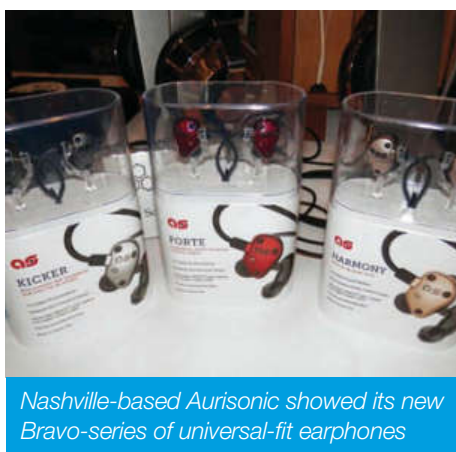
*Peter Hoagland of HiFiMAN presents a pair of HE1000's to our lucky winner*



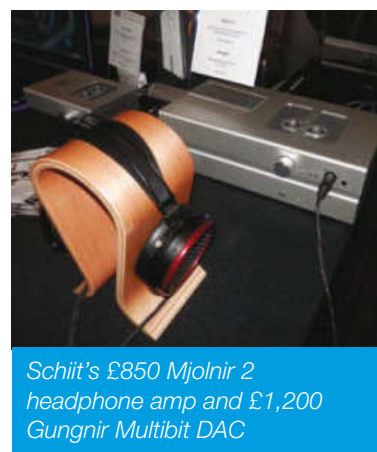
*This is what happens if you go all Hulk – Smash! on a set of NightHawk headphones... and why AudioQuest thinks them loudspeakers for your ears*



*Fostex newly uprated £529 TH500RP planar magnetic headphones*



*Nashville-based Aurisonic showed its new Bravo-series of universal-fit earphones*



*Schiit's £850 Mjolnir 2 headphone amp and £1,200 Gungnir Multibit DAC*



*Sennheiser's new £400 HD630VB (Variable Bass) closed-back design*



*Below the popular Fostex HP-P1 headphone amp is the new HP-V1 valve-based design!*



*Oppo's popular £350 PM-3 closed-back planar magnetic headphones*



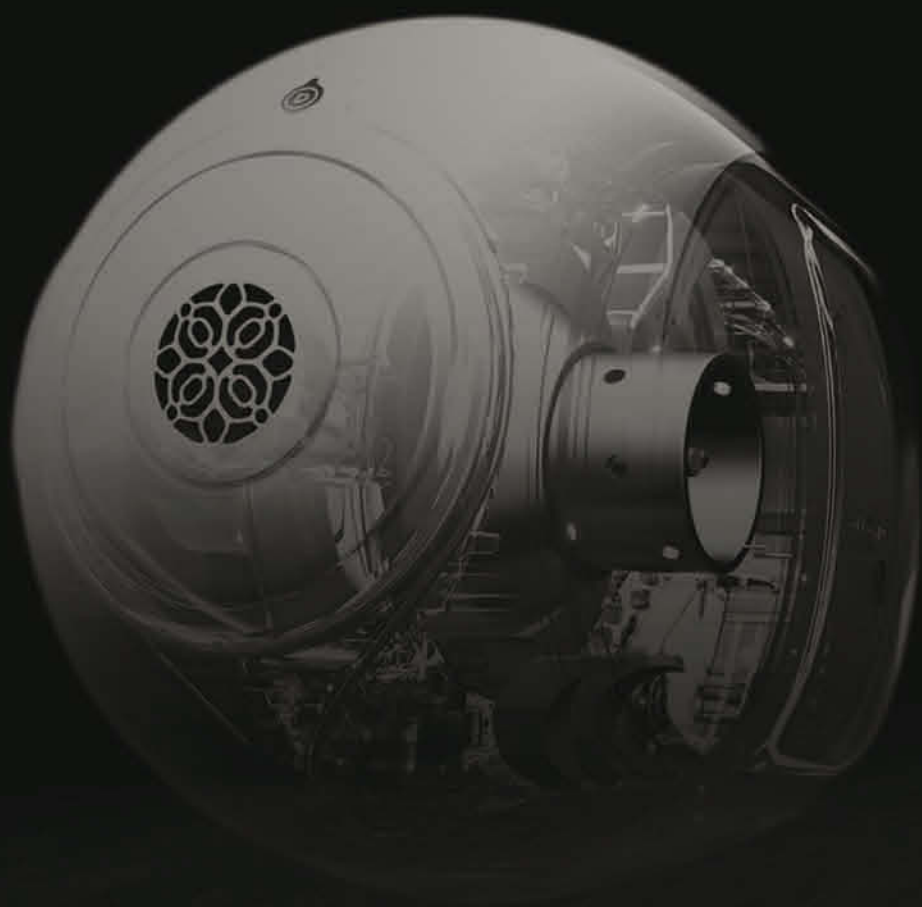
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# Rules Of The Road – The route map to system building satisfaction

by Roy Gregory



**A**udio reviewers just love car analogies, the perfect shorthand for the cost/performance/benefits curve. Often it's just laziness or a mistaken impression that they're actually audio's answer to Jeremy Clarkson (same shape, just without the audience figures or the money) but there's one area in which the parallels are too close to ignore. Motorsport and audio are all about the same thing: performance – and how to achieve it. When it comes to trying to build a decent hi-fi system, the conceptual challenges are surprisingly similar to building a sports car – just without the comfort blanket of meaningful, empirical performance indicators.

Buy a car with a published performance that includes a sub-four second 0-62mph figure and you probably think

you know what you are getting. But do you? It's undoubtedly quick and it definitely takes off from the lights, but to actually reach a mile-a-minute in less than four seconds, you need a professional driver, slick tyres, perfect weather, and a perfectly manicured drag strip – not a weekend warrior on the Clapham High Road. More to the point, there's actually no guarantee that if you race a car with a 4.2 second 0-62 figure away from the lights, you are actually going to achieve that target. It's all down to the conditions and the vehicle that's best suited to them. When it comes to actually going under the four-second barrier, it's all about creating the conditions for optimum performance – or realizing potential – and hi-fi systems are just the same. Get the right car, the right driver, the right mechanic, fuel, tyres, and track – and you'll see that car at its best. Bolt ►



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Go Deeper







► together an engine from one source, a chassis from another, add a bunch of tuning parts and fill it with something you found in a can at the back of the garage, and you'll be lucky if it even starts – yet that's exactly what a lot of people do with audio equipment. Then they wonder why they've stopped listening to it. Most end users spend too much time agonizing over the equipment choices and not nearly enough worrying about giving that equipment a fighting chance. The boxes might well be the sexy bits, but they quickly lose their allure if you can't hear what they're doing – and that's definitely down to the operational environment.

The enduring popularity of *What Hi-Fi* and the *Stereophile* Recommended Components listings rests on the buyer's need for answers. But we all know (including the people handing out those Five-Star reviews and Class A ratings) that simply assembling a system made from those prize-winning components is a recipe for disaster. The problem is that, even leaving matching and set-up issues aside, picking products off somebody else's short list is like letting a total stranger choose your meal in a restaurant – somebody who has never met you and has no idea that you suffer from violent food allergies!

The first step to building a really good hi-fi system is understanding that the only person who can provide those 'which product' answers is you. So rather than trying to offer you short cuts that turn out to be dead ends, spurious 'recommendations' that ultimately don't deliver, perhaps it's time to approach this problem from the other end. If magazines can't (and really shouldn't try to) provide universal recommendations, perhaps they should work on making it easier to arrive at really meaningful answers of your own. With

that in mind, and couched in the form of a loose assortment of half a dozen motoring truisms, three devoted to establishing a decent operational foundation for your system, three concerned with selecting the system itself, here are the golden rule of system building success. Following them won't guarantee musical satisfaction (there's a bit more to it than that) but ignore even one and you'll be severely limiting your system's potential. How do you build a system? Here's how...

### **Rule 1. Don't try and run a top fuel dragster on diesel**

When you listen to an audio system, you are actually listening to your AC supply. The electricity that comes out of the wall is the raw material that is converted into sound – and just like any other process, the resulting performance depends on the quality of the fuel you use. The increasing use of wireless communication systems, switching power supplies, and the massive increase in electrical components loading the national grid all contribute to a situation where AC quality is at an all-time low. What we tend to forget is that a lot of those problems emanate from within our own houses, with multiple appliances, computers, mobile/wireless phones, and data systems all polluting the immediate area. Running a single, dedicated mains spur to feed your audio system, preferably wired with a screened, heavy-gauge cable, and selected sockets and hardware in the fuse-box is possibly the single most cost effective contribution you can make to the performance of your audio system. It might not offer the instantaneous gratification of a NOS injection system, but believe me, the benefits are both permanent and absolutely fundamental.

### **Rule 2. Don't try and drive a Ferrari across a ploughed field**

Let's be honest, you wouldn't do it: indeed, you probably couldn't do it – not enough ground clearance or suspension travel. The Ferrari is definitely designed to run – in fact, will pretty much only run – on perfectly smooth surfaces. Your audio system is the same. Think of discontinuities in the signal path or external mechanical interference as the furrows of that field and you begin to get the picture. Each microphonic intrusion or change in the materials or nature of the cables connecting your boxes together will erode performance, destroying the linearity and musical coherence you are trying so hard (and spending so much) to preserve. In turn, what that means is that you need to pay attention to what sits between your equipment and the floor and what connects it together. So choose racks and shelves that are dispersive and non-resonant in nature – which means avoiding welded ►



# TAD EVOLUTION SERIES

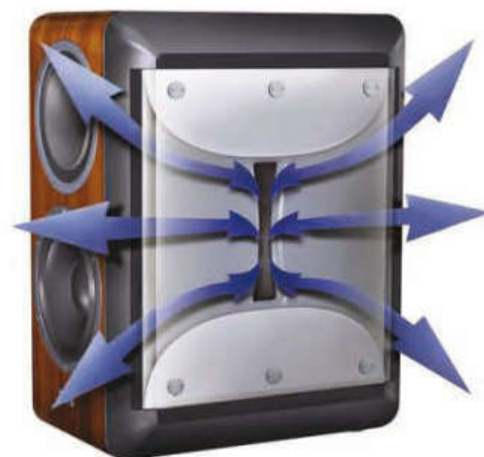
## WILL BE DEMONSTRATED IN WINDSOR 2

The TAD Evolution range produces nothing but natural musical sound, regardless of the genre you wish to listen to the equipment simply disappears, allowing you to fully enjoy the experience.



The new CE1 speaker which sits in the Evolution Series. Designed and developed entirely in-house, the CE1 inherits the groundbreaking loudspeaker technology from the R1 (Reference Series). On either side of the cabinet a bi-directional slit-shaped port (duct) is covered by an aluminum side panel. The openings are horn-shaped to achieve a smooth airflow. This design reduces port noise, even at high amplitude, and prevents leakage of internal standing waves. The bi-directional (forward and backward) and symmetrical (left to right) layout of the port openings further offsets the driving force to the port to guarantee a responsive and natural bass sound.

The Evolution One ('E1') is a three-way, bass-reflex design employing the company's CST (Coherent Source Transducer) driver in which the tweeter is placed at the acoustic centre of the midrange unit. It is a breathtaking high-end floorstander, modestly-sized and with a compact footprint to make it ideal for the living rooms of many high-end audio enthusiasts and music lovers. As with TAD Labs' Reference designs, the cabinet of the E1 has a teardrop shape.



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- steel, glass and if possible MDF. They need to provide a stable and level surface and also consider what (if any) isolation the structure provides from the outside world, between the rack and the floor or the rack and its shelves: and no, spikes don't count. Likewise, choose your cables (all of them, including the power cords) from a single, coherent range, where a manufacturer uses the same conductor, dielectric materials and design concept across all the products.

### Rule 3. It's all about traction...

All the power in the world is no good to you if you can't hook it up – and spinning wheels don't get you very far. In motoring terms you can talk about torque and tyres, but it's the road surface that is ultimately the limiting factor. For audio systems, the equivalent constraint is the signal to noise ratio, or noise floor: it's the other side of the isolation/integration argument outlined above – just even more critical. In this case it's all about grounding – mechanical and electrical. In real terms, what you are seeking to isolate or protect isn't the equipment but the signal path within it and that's an important distinction. As well as mechanical energy reaching the signal path from the air and the floor, via the rack, the equipment generates internal mechanical energy too. Transformers vibrate, as do capacitors as they charge and discharge and other components as they

*“Ever wondered how those ‘isolation’ cones worked? Now you know – and it's not by isolating!”*

pass the signal. The actual level of the energy might be low, but it is right where the signal is, making it disproportionately destructive. To make matters worse, the soft ‘isolation feet’ fitted to most products actually trap that energy inside your electronics where it smudges the signal and raises the noise floor. Hard couplers that ground the chassis to a dispersive supporting surface (which could be as simple as a plywood or laminated bamboo shelf) provide an exit path for that energy – generally with pretty dramatic results. The resulting drop in noise floor, increase in dynamic range and improvements in timing and rhythmic articulation can have a profound impact on just how listenable your system is. Ever wondered how those ‘isolation’ cones worked? Now you know – and it's not by isolating the equipment!

Likewise, there's no substitute for a clean ground when it comes to reducing the electrical contribution to the system's noise floor. Use a single, star-grounded distribution block to power your equipment, with the centre of the star connected not just to the main AC ground but also to a separate ground-post buried in your garden and you'll experience an equally dramatic reduction in grain, a blacker background behind the music, richer, more vibrant colours and more emphatic dynamics – all crucial to your system's musical expression and sense of emotional communication. Once again it's a cheap and easy fix that delivers results it's hard to credit – until you experience them.

Once you've paid attention to the basic steps outlined above you will have established conditions of operation that will give your equipment a fighting chance of performing somewhere near its potential – and you a fighting chance of hearing what it's doing and the musical impact of any changes or choices you might make. Now it's time to look at the system selection guidelines...

### Rule 4. Don't try to bolt a big engine to a tiny transmission

There are certain critical junctions in any system; joins where the parts need to mate seamlessly if the whole is going to become greater than the sum of the parts. In a car, it goes way beyond whether the mating parts use metric dimensions or not: the design team needs to consider power and torque curves, gear ratios, and performance goals. Audio systems ►





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- are exactly the same, except that the critical junctions are not necessarily quite so obvious. We tend to divide systems into three parts: source components, amplification, and speakers. In fact, we should divide them in two: everything up to the amplifier inputs and everything after them. The electrical relationship between the driving amplifier and the speaker load it is connected to is so critical that it cannot possibly be separated if you want to get everything out of both components. The speaker/amplifier pairing should be chosen together (even if you are not buying them together), matched to each other and the room in which they'll be used. That's the only way to achieve the best possible performance.

#### **Rule 5. Straight line speed gets you nowhere fast if you don't have the handling to match**

The chassis and suspension might not be the most visible or the sexiest part of a car, but they are what joins the engine to the wheels, keeps those wheels on the ground and that car on the road. In an audio system, that role is occupied by the line-stage – and it can totally make or break the performance of the system as a whole. Over the years, ever since the advent of CD, it has been fashionable to try and eliminate the line-stage from the audio signal path, either replacing it with a variable output source component (as championed by Wadia and dCS, amongst others) or a passive pre-amp of some description. In my view, what benefits that seem to come with direct connection or passive control are merely a reflection of how bad many line-stages really are. For something that on paper at least, should be so simple, designing a decent line-stage is incredibly difficult – making worthwhile examples rare if not necessarily expensive. In fact, it's really what establishes the musical foundation, sorting the incoming signals and defining the quality and integrity of what reaches the power amp and speakers. The line-stage is the living, breathing heart of any system and you need to listen long and hard until you find the one for you.

This is, I grant you, not an opinion shared by everyone; many enthusiasts (including some on the *Hi-Fi+* team) use systems without active line stages. However, I still hold that the best systems I've heard all feature an active preamp.

#### **Rule 6. Don't decide on a two-seater if you have a family**

One of the biggest mistakes you can make when it comes to building a system is pre-allocating your budget, dividing it up by unit function – so much for the source component(s), so much for the amplifier and so much for the speakers. In reality, such an approach is utterly nonsensical. Not only will the relative component costs change with technology, but

with overall budget too. End up with a horn speaker and it could cost many times the price of the driving amplifier – the complete opposite of a classic flat-earth pairing. Building a CD replay system or a record player are two completely different engineering problems with completely different cost structures: there's no correlation between the expenditure on and performance of the two solutions – not to mention the fact that the record player needs a phono stage as well!

Finally, think back to our first three rules. Assembling a coherent set of cables and supports as well as executing the electrical work necessary doesn't have to be massively expensive (at least in high-end audio terms) but there is a minimum cost involved. In the context of a £3,000 system that cost might well constitute as much as 50% of the budget – a figure that seems ludicrous on paper, until you actually listen to what these elements contribute to the overall sound. They aren't just luxuries or accessories, they are the foundation on which the system is built and on which its performance depends. Although many disagree, I remain convinced that £1,500 worth of electronics and speakers properly set up with £1,500 worth of infrastructure, will out-perform £3,000 worth of kit set up on a sideboard using bell-wire!

Audio history is littered with examples of apparently mismatched systems that really worked. From the £2,000 ARC SP8 pre-amp driving the Meridian M2 interactive loudspeakers (£800 including the power amps) to the ARC M300 mono-blocs paired with the Sonus Faber Electa Amator, or from a quartet of Naim NAP135 power amps driving active Kans to the Border Patrol P21 driving the Vox Olympians, the proof is in the listening and you can only listen to a system – not individual components. Which is where audio and motoring diverge. The problem is, that when it comes to reproducing music, the simple measures (quicker, faster, further) don't apply. What makes the difference between a set of equipment that just makes a noise, a good system that makes something approaching music and a great system that makes sense of both the music and the musical performance, is its ability to reveal the fragile chemistry preserved in the signal. Most people assume that the results are dictated by the quality of the boxes that make up the system, but in reality it has much more to do with how well the boxes work together and well you let them work.

As I said earlier, six rules aren't a lot to follow and they won't guarantee your arrival at audio nirvana – although they will set you on the right path and keep you heading in the right direction. But ignore even one and either you won't have all the wheels on your hi-fi wagon, or you won't get far before they start falling off: you set out to buy a Ferrari but you'll end up with the audio equivalent of a Reliant Robin! +



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Mark Levinson Mo 532	£4990	Musical Fidelity Mk6 CD	£650	Bryston BP-26 and MPS-2	£2200	Reference LE	£6750		
Tom Evans The Groove Plus mkII	£4990	Naim Audio CDi	£690	C.A.T SL1 Ultimate	£7295	Sendor A3	£600	<b>Cables</b>	
Analogue Domain Audio GmbH Isis M75D	£13998	Naim Audio CDX2	£1490	Cary SLP 98L	£2295	Sendor s100	£1500	Analysis Plus Silver Oval 7m XLR	£1895
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Nordost CAST (for Krell-2m)	£690	Plinius CD101	£1890	Jadis JPL	£1790	Wilson Audio WATT Puppy 7	£6490	Cardas Audio Golden cross tone arm cable	£350
Krell FPB 400CX	£4490	Plinius CD-101	£1800	Klyne Audio Arts 7LX3.5 & phono	£2290	Wilson Audio Watt Puppy 7	£6490	DN1M Speaker & interconnect	£600
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ART Stiletto Monitor	£500	B.A.T.VK-255 SE	£3700	<b>Loudspeakers</b>		Dr. Feickert Analogue NG High-Precision Cartridge Alignment Tool	£149	MIT MH750 5W 10ft pair	£450
Plinius CD-101	£1600	Bel Canto Ref 1000 M (Mk2) Mono blocks	£4300	Acoustic Energy AELITE THREE	£350	EAR EAR 834 P Signature	£600	Moving Air Abbey Road Reference	£295
Linn Soudtek LP12, Ittok, Majik PSU, Rosewood £3500		NEW	£1990	Adam Audio Compact Active Version	£1295	EMT 950 Broadcast Turnta Fabulous	£6500	NBS Audio Signature II AES/EBU	£495
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Avantgrade Acoustics Uno G2	£7490	BMC Audio CS2 Integrated/ Power Amplifier	£5495	ART Stiletto Monitor	£500	Gale GT2101 Turntable	£1495	Nordost blue heaven	£330
Ayon Skylla II	£2490	BMC Audio M2 Monoblocks	£10990	ATC SCM3000 ASL Monitors	£17500	Jan Artasters MC18 mk1	£1950	Nordost Blue Heaven 3m Bi Amp	£350
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# System Feature: AURALiC, PS Audio, GamuT, and YG Acoustics-based system

by Chris Martens



**T**his special issue of *Hi-Fi+* is centred on the art science of assembling high performance music systems. Much like chefs preparing fine gourmet meals, those who would put together top-quality audio systems must start out with three things: a clear cut notion of the setting and objectives at hand, a well-conceived 'recipe', and premium-quality ingredients. Following these guidelines, my contribution to the issue is a very high-performance system intended to support most kinds of music (except for those that require ultra-high volume playback levels) and that is scaled for use in moderately-sized listening rooms.

The key elements of my system-building recipe call for tonal neutrality, extended frequency response, high resolution, dynamic power and agility, and very high levels of all-around expressiveness and sonic nuance. To meet these admittedly challenging goals, the premium-quality audio 'ingredients' I have chosen for my system include the following: an AURALiC ARIES wireless streaming bridge and a PS Audio PerfectWave Transport (as digital sources), a PS Audio DirectStream DAC running the latest-generation Yale OS software (used as a DAC/preamp), a pair of GamuT M250i monoblock amplifiers, and a pair of YG Acoustics Carmel 2 floorstanding loudspeakers. System cables are sourced from Furutech (power cords, interconnects, and speaker cables) and AudioQuest (digital cables).

We offer here a mini-review of PS Audio's Yale OS software for the DirectStream DAC, followed by full standalone reviews of the GamuT amplifiers, and then the new YG Acoustics speakers in their own right. This, in effect, follows the signal path from source to loudspeaker. Then, at the end, I'll explain how all the system elements meld to form a cohesive whole. This does make for a very long form review, and as a result we decided to focus on the main elements of the audio pathway, at the expense of some of the others: not just cables, power products, and equipment support systems, but most significantly, the AURALiC ARIES bridge. However, we will address this, and plan a review of the AURALiC ARIES in a future issue.



## Follow-Up: PS Audio Yale OS firmware for the DirectStream DAC

Have you ever purchased an audio product only to learn that the manufacturer had released a new, improved, and upgraded version of your new baby only a few short months after you plunked down your hard-earned cash? If you have, I'm sure you might agree that it's a frustrating (even maddening) experience, to say the least. In an instant, your pride and joy has become 'last year's model', perhaps even obsolete. But when it comes to PS Audio's critically acclaimed DirectStream DAC (reviewed in issue 125), I'm pleased to say that owners will be spared the ravages of unforeseen 'early obsolescence' and here's why.

The DirectStream DAC is not so much a singular digital-to-analogue converter in the usual audiophile's sense of the term, but rather a flexible, powerful, FPGA-equipped and DSP-enhanced digital audio decoding platform whose operation and sonic performance are in very real ways governed by the operating system software the device happens to be running at the time. The term 'platform' here is deliberate, to convey the idea that the DirectStream DAC's sonic performance can and does (along with the unit's operational characteristics) evolve over time as better and more sophisticated operating system software becomes available. Obviously, this ambitious software-driven product evolution schema sounds promising, at least in theory, but do the real world results make good on PS Audio's promises? The short answer is that they do.

When I reviewed the DirectStream DAC earlier this year, the device arrived with PS Audio's then current 'Pikes Peak'

operating system installed. By all accounts, the Pikes Peak-equipped DAC sounded better than did versions equipped with earlier iterations of operating software, but since I hadn't heard those earlier versions I basically had to accept reports of sonic improvements as an article of faith. In any event, I came away highly impressed by the Pikes Peak-equipped DAC, especially its detailed, gracious, and free-flowing presentation, which reminded me of the sound of high-quality analogue master tapes (minus the tape hiss).

Lately, however, PS Audio has released a new DirectStream DAC operating system upgrade named Yale (not after the famous Ivy-league university, but after Colorado's Mount Yale—which PS notes is one of "the 53 mountain peaks in the state that rise above 14,000 feet."). In a press release on the new OS, DirectStream DAC designer Ted Smith said, "For Yale, I rewrote about half of the DSP code to take advantage of what we've learned about noise and jitter from the FPGA." According to PS, the new OS also reduces the DirectStream DAC's already low noise floor by 3dB and fixes a few small operational glitches present with the Pikes Peak OS.

OS upgrades are easy to install: download the OS upgrade package from the PS Audio website, load the package on an SD card, power down the DAC, insert the DS card in the DAC rear panel, re-boot the DAC, and wait for the auto-install process to run its course. The amazing part is that the OS upgrade manages—without altering the hardware in any way—to transform the DAC's sound. ▶





*“As a direct result of these changes the DAC sounded noticeably more ‘continuous’ and more convincingly three-dimensional.”*

► Specifically, I found that with the Yale OS in place, the DirectStream DAC took a significant leap forward in terms of resolution—especially resolution of very low-level textural and reverberant details, and also became even smoother and more mellifluous in its presentation. As a direct result of these changes the DAC sounded noticeably more ‘continuous’ (to borrow a term coined by the late, great audio journalist Harry Pearson) and more convincingly three-dimensional. Perhaps more importantly, the DAC’s ‘palpability factor’ also went way, way up, meaning that sonic images of instruments and human voices became far more solid and vivid with a kind of breath-taking ‘you-are-there’ realism.

These sorts of substantial improvements in sound quality usually take place through costly and elaborate hardware upgrades. Now, however, PS Audio—along with a handful of other forward-looking manufacturers—has shown us a better kind of upgrade path. In the case of the DirectStream DAC, PS Audio’s formula calls for building and selling a hyper-capable hardware platform whose full sonic capabilities are, arguably, not fully known to the design team at the time of the product’s initial release. Then, over time and as the team gains more insight into what their platform can actually do, successive operating system updates tap more and more of the platform’s sonic potential, giving the product an ‘evergreen’ quality that will not rapidly become obsolete. Well done, PS Audio! ►

## TECHNICAL SPECIFICATIONS

**Type:** Operating system upgrade software for the PS Audio DirectStream DAC

**Noise:** Noise floor is reduced by 3dB vis-à-vis the ‘Pikes Peak’ OS

**Jitter:** Jitter reduced by an unspecified amount vis-à-vis the ‘Pikes Peak’ OS

**Storage/Installation requirements:** SDHC memory card (OS upgrade software requires approximately 4.1MB of storage capacity)

**Price:** Free of charge to owners of PS Audio DirectStream DACs

**Manufacturer Information:** PS Audio

**URL:** [www.psaudio.com](http://www.psaudio.com)

**Distributor Information:** Signature Audio Systems

**Tel:** +44(0) 7738 007776

**URL:** [www.signaturesystems.co.uk](http://www.signaturesystems.co.uk)







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## GamuT M250i monoblock amplifiers



► In anticipation of my review of the GamuT RS3 loudspeaker in *Hi-Fi+* issue 127, the GamuT team asked if I might consider driving the loudspeakers with a pair of their 250Wpc M250i monoblock amplifiers (priced at £8,658 each). Naturally, I was happy to oblige. Little did I realise at the time that the arrival of the M250i amps would force me to reassess my thinking on the profound, and in this case profoundly positive, impact that truly great amplifiers can have on the overall sound quality of one's audio system.

While some claim, “all high-quality amps sound pretty much the same”, most *Hi-Fi+* readers know that there are in fact clear-cut differences between amplifiers that can be heard by almost anyone willing to listen carefully and critically to his or her audio system. Even so, many of us also have a general notion of the probable magnitude of the sonic changes that amplifier substitutions are apt to make. Quite frankly, after installing the M250i amps in my system and giving them the GamuT-recommended half-hour of warm-up, my preconceived notions regarding the impact of amplifier swaps were immediately and completely upended (in a good way). I say this because the big GamuT amps dramatically took charge of my audio system and transformed it in delightful and somewhat unexpected ways.

Over the years, many of us have encountered (or perhaps even written) amplifier reviews that essentially declare that

listeners face a dilemma. They can either choose lithe, agile, and nuanced amplifiers that, sadly, might have relatively limited power output capabilities, or they can select big, robust, and powerful amplifiers that are long on muscle, but potentially not very subtle or quick on their feet. What's an audiophile to do, then? The Danish firm GamuT responds to this thorny topic with a suitably gnomic question: why not both? GamuT's answer comes in the form of the M250i monoblocks.

The M250i is a very powerful, wide bandwidth (5Hz –100kHz) amplifier, capable of delivering a conservatively rated 250 watts into an 8 Ohm load, 500 watts into a 4 Ohm load, and a mind-bending 900 watts into a 2 Ohm load (actually, GamuT says the M250i is safe with loads ranging all the way down to 1.5 Ohms, which is the point at which GamuT, in its own words, draws “a line between what is a loudspeaker load, and what is a short circuit”). As you might expect, each amplifier sports a massive power supply complete with a huge toroidal transformer and beefy filter capacitors, which take up considerable space within the amp's chassis. Internally, the amps use GamuT's proprietary WormHole wires throughout.

But, to address the agility, nuance, and resolution side of the equation, GamuT has deliberately designed the circuit of the M250i to be as simple and direct as possible and to use—this is the really critical bit—as few amplification devices as ►





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► possible. Thus, where most brawny amps use large numbers of beefy output transistors in banks, the M250i uses just two identical (not complementary), ultra high-capacity (NPN type) MOSFET output transistors—one per voltage rail—and that's it; output stage completed.

Why did GamuT take the unorthodox approach of using identical NPN transistors to modulate both the positive and negative voltage supply rails of its amplifier, rather than follow the more common approach of using complementary sets of NPN/PNP transistors? The answer is that so-called complementary transistors are not, strictly speaking, truly complementary. GamuT says the inherent differences between PNP and NPN transistors inevitably “create phase smearing” and require use of compensatory resistors that, “reduce the output stage’s ability to control the speaker.” In contrast, GamuT’s M250i circuit topology “has the benefit that the difference between the two transistors (both of the exact same type) is 100 times smaller than it would be in a normal complementary based circuit.” The result, GamuT claims, “is an output section without crossover distortion, no emitter resistors, and very low distortion, consisting mainly of even-order harmonics.”

As you can imagine the two giant MOSFETs used in the M250i are no ordinary transistors. Benno Meldgaard, GamuT’s chief of design, observes that the huge and very costly MOSFETs used in the M250i do not come from the audio world at all, but rather are ‘industrial strength’ devices

“normally used in big welding machines.” GamuT claims that each of these very special MOSFETs can handle “500 watts, and a peak current of 400 Amperes and 100 Amperes long-term,” meaning that just two of the devices are able to meet the amplifier’s hefty power output goals.

To further simplify the M250i circuit for critical listening applications, GamuT has given the amplifier two sets of outputs: one labelled ‘Normal’ and the other ‘Direct’. The Normal output incorporates a Zobel network designed to protect the amplifier from extremely low impedance and/or highly reactive loads. The Direct output, however, deliberately foregoes the Zobel network in the interest of even greater sonic clarity, purity, and immediacy. Meldgaard says that, “in 99% of all situations, the Direct Output can be used.” In our listening tests, we tried both outputs and found that, as claimed, the Direct output really does sound more open, airy, and transparent. Accordingly, we used the Direct output for all of our review listening.

As well as the PS Audio DirectStream DAC and YG Acoustics Carmel 2 loudspeaker system used in this extended feature, I also tried two other demanding (and revealing) loudspeaker systems: the Magnepan 3.7i planar magnetic panels, and GamuT’s own RS3 standmount monitors.

First, let’s observe the obvious; the M250i amps are well and truly powerful and have all the current drive capabilities any sane listener could want. As a result, the GamuT amps took the notably power-hungry Magnepan 3.7i’s to higher ►

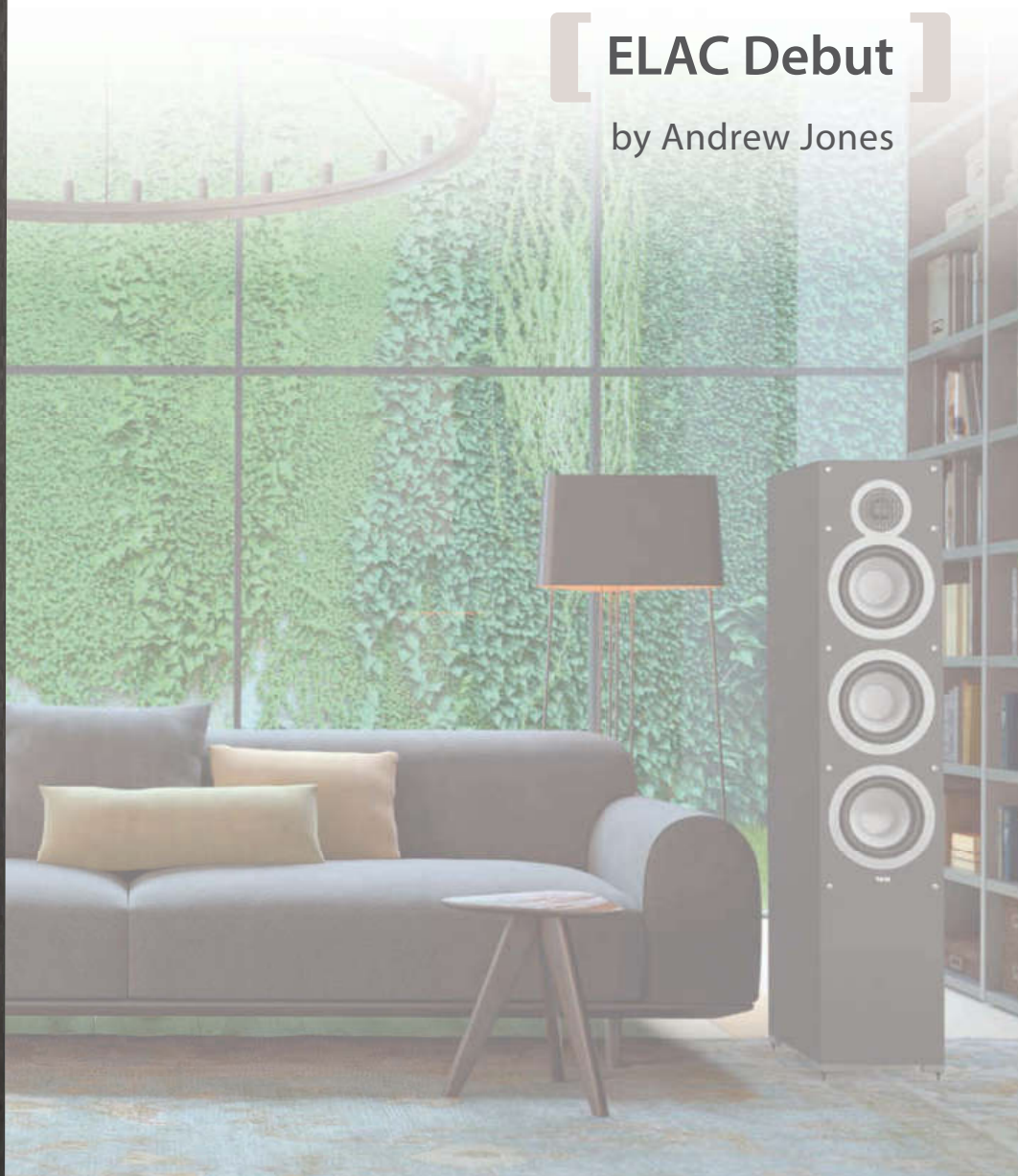


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by Andrew Jones



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*“In an instant, the focus shifts from power to speed, subtlety, and nuance — a challenge the big GamuTs answer with a deft, sure touch as well as cat-quick reflexes.”*

► levels of performance than I had ever heard from them before (and I have heard them with a wide variety of amplifiers). Bass immediately seemed deeper, more articulate, and had greater impact, while dynamic capabilities all across the audio spectrum were markedly improved. The result was that, with the GamuTs in charge, the Magnepan 3.7i's started to sound more than a little like their bigger brothers, the firm's flagship 20.7 loudspeakers. To be sure, the 20.7 is still the better speaker, but the GamuTs helped Magnepan's number two model close the gap considerably.

But what was impressive was not just the quantity of power on offer, but also the quality of the power. Some big amps are sadly a bit like competitive weightlifters: that is, massively strong, but not necessarily individuals you would want to see performing at the ballet. The M250i, on the other hand, is more like the equivalent of an imaginary, scaled-up version of Mikhail Baryshnikov in his prime. Suddenly, power and grace along with agility, expressiveness, and raw grunt come together in one remarkably capable package.

To hear what I mean by these comments, Mark O'Connor's 'Fanfare for the Common Man' from the album of the same name [Sony Classical] makes a perfect illustration. The first four minutes of the composition are exactly what you might expect from an orchestral fanfare, complete with soaring and heroic brass section statements punctuated by deep, thunderously powerful tympani outbursts. The M250i's take all of these things in their stride. But at about the four-minute mark the piece changes mood, emphasising softer, but quicker-paced passages featuring the voice of O'Connor's solo violin. In an instant, the focus shifts from power to speed, subtlety, and nuance—a challenge that the big GamuTs answer with a deft, sure touch as well as cat-quick reflexes.

To further illustrate this point, try listening to Zhao Jia Zhen's performance of 'Three Refrains on the Yangquan Pass' from Masterpieces of the Chinese Qin from the Tang Dynasty to Today [Rhymoi], as performed on a period-correct Song Dynasty Qin. The Qin is moderately large and typically seven-stringed fretless Chinese instrument, ancient in its origins, that is renowned for the many soulful and thought-provoking textures and moods its sound can evoke. It is, in short, an instrument that is all about subtlety and finesse all the time. The GamuT amps, playing through the YG Acoustics Carmel 2 speakers,

## TECHNICAL SPECIFICATIONS

**Type:** Solid-state monoblock power amplifier

**Analogue inputs:** One single ended (via RCA jack), one balanced (via 3-pin XLR jack)

**Analogue outputs:** Two pairs of speaker taps (via 5-way binding posts): one Normal with Zobel network protection, one Direct without Zobel network features

**Power output:** 250 watts @ 8 Ohms, 500 watts @ 4 Ohms, 900 watts at 2 Ohms, stable into loads as low as 1.5 Ohms

**Bandwidth:** 5Hz–100kHz

**Signal to Noise Ratio:** At least -100dB at full output (250 watts at 8 Ohms)

**Dimensions (HxWxD):** 164 × 431 × 470mm

**Weight:** 38kg/each

**Price:** £8,658/each, £17,308/pair

**Manufacturer Information:** GamuT A/S

**URL:** [www.gamutaudio.com](http://www.gamutaudio.com)

**UK Distributor:** Sound Foundations

**Tel.:** +44 (0) 118 9814238

**URL:** [www.soundfoundations.co.uk](http://www.soundfoundations.co.uk)

**US Distributor:** GamuT USA

**Tel.:** +1 888-252-2499

met these demands with a performance that was delicate, perfectly paced, highly transparent, and heartbreakingly beautiful. On recording after recording, this pattern repeated itself, with the GamuT amps managing to sound big and powerful, yet small and agile, all at the same time.

GamuT's M250i monoblock amps have proven revelatory for me. They are one of the very few amplifiers I have ever heard that can combine world-class power delivery and dynamic clout with all the subtlety, expressiveness, and pace that one could possibly desire. Now if that's not audio magic of the first rank, then I can't imagine what else would be. Passionately recommended. ►





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## YG Acoustics Carmel 2 floorstanding loudspeaker

► YG Acoustics is based in Arvada, Colorado in the USA and in the States it is widely regarded as one of the ‘big three’ high-end loudspeaker manufacturers—the other two members of this exclusive group being Wilson Audio and Magico. But, in the UK at least, YG had a relatively low profile. However, that’s set to change, because the brand has returned to the UK under the auspices of the Cambridge-based distributor, Padood, Ltd. It’s our opinion that great pleasures await discerning UK listeners who audition the brand’s products, and we thought it might be good to start out with the firm’s most compact and least expensive model: the £22,000 Carmel 2 floorstanding loudspeaker.

Before we begin, I should supply several pieces of background information, if only to set a context for this review. First, my listening room, which measures about 14’ × 17.7’ (4.3 × 5.4m), is about the size of a medium-large UK lounge—it’s not a huge space, but neither is it a small 8’ × 8’ parlour. Second, I have had extensive experience with YG Acoustic’s original Carmel loudspeaker, which I favourably reviewed several years ago for our U.S.-based sister publication *The Absolute Sound*. In that publication, the original Carmel went on to win accolades as a loudspeaker of the year within its price class. Moreover, I would say that between then and now, I have long regarded the original Carmel as a ‘personal best’ of sorts, in that it set a high-water mark for overall audio system performance in my home—a mark that remained unchallenged until quite recently, when I heard first the superb GamuT RS3 standmount monitors reviewed in issue 127, and now the Carmel 2 floorstanders.

Recognising that the original Carmel was one of the best loved (and best selling) of all YG products, the YG team were very keen on having me hear the new Carmel 2 in comparison with the original Carmels. Accordingly, they arranged for both sets of speakers to be sent to my home for back-to-back listening sessions, so that I could better understand and—they hoped—appreciate the differences between the models. Consequently, this is not only a review of the Carmel 2, but also a comparison between it and its critically acclaimed predecessor.

The Carmel 2 is a two-way, two-driver floorstanding loudspeaker whose sealed, non-vented enclosure is constructed of CNC-machined panels carved from thick, solid plates of high-quality, aircraft-grade aluminium. The panels, in turn, are pressure-assembled using an exclusive YG process that effectively draws the panels together with great force,

creating an airtight and exceptionally rigid enclosure that resists unwanted vibration and resonance. The Carmel 2, whose design shape is that of a slender, swept-back, and gently tapered tower, appears at first glance to use flat (or nearly flat) cabinet panels. Closer inspection, however, reveals that the speaker’s 3.5cm thick front baffle consists of a symphony of subtle and complex compound curves (it’s truly a work of machining art). The Carmel 2, like all YG speakers, is offered either in satin black or silver-anodised finishes.

Although you might never guess this from the external appearance of the Carmel 2, the loudspeaker’s enclosure is internally subdivided into three computer-optimised chambers, the support structures for which feature very small quantities of precision-placed damping materials that help eliminate specific resonances, without imposing a ‘lossy’ or ‘high-friction’ operating environment for the drivers. YG has decided to call this targeted approach to resonance reduction ‘Focused Elimination’ technology, which actually works and works well as far as I could tell.

The Carmel 2 driver array consists of a proprietary YG-designed and manufactured 184mm ‘BilletCore’ mid-bass driver and a 27mm ‘ForgeCore’ tweeter whose diaphragm is manufactured to YG specifications by Scan-Speak but whose motor assembly is designed and manufactured solely by YG. By comparison, the drivers used in the original Carmel were both modified Scan-Speak units.

The term ‘BilletCore’ refers to the fact that the Carmel 2’s mid-bass driver diaphragm, which in finished form weighs just 10 grams, is cut from a two kilogram billet of aircraft aluminium. Although this might seem an extreme manufacturing approach, YG’s contention is that it yields a diaphragm that exhibits extraordinary dimensional uniformity and structural integrity throughout, without any of the microscopic stress cracks, stretch marks, or unit-to-unit variations in material strength and/or thickness as found in stamped, woven, or injection moulded driver diaphragms. The result, says YG, is a mid-bass driver that offers greater strength, significantly lower distortion, and more predictable behaviour over its entire operating range than any competing composite, metal, or ceramic diaphragm-equipped driver.

The term ‘ForgeCore’ refers to the fact that the motor assembly/magnet structure of the tweeter starts out as a CNC-machined steel forging “with some non-machinable features”, which are then given “computer-optimized, highly sophisticated 3D geometries” via CNC-cutting of various ►







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Robert Harley, The Absolute Sound, Newport Show 04-06-2014

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Neil Gader, The Absolute Sound, Newport Show 06-06-2014

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Home Theater and High Fidelity, Newport Beach Show 2014

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Anthony Kershaw, Audiophilia 16-07-2014

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► magnet/motor system parts. According to YG, these 3D-optimised machining processes together yield a dramatic reduction in tweeter distortion—especially in comparison between the Carmel 2's ForgeCore tweeters and the original Carmel's custom-built Scan-Speak tweeter.

Both in terms of concept and execution, the Carmel 2's crossover network is very distinctive. Conceptually, the crossover circuit was created using YG Acoustic's proprietary 'DualCoherent' speaker design software, which is said to be the only CAD program of its type capable of simultaneously optimising both linear frequency response and linear phase response. The nominal crossover point is 1.75kHz. As so often happens, though, the genius of the crossover lies in the details of its execution. YG was dissatisfied with the overall performance and quality of traditional printed circuit boards, so as an alternative it found a way to bond very thick layers of pure copper to underlying fibreglass circuit board material and then to CNC-cut the crossover circuit into the copper side of the board. The result is a non-traditional circuit board, with circuit traces that provide higher quality conductor materials and more precise trace placement and dimensions than any traditional etched-type PCB could offer. Populating the crossover board are very low noise resistors, exotic and expensive oil-filled Mundorf capacitors, and YG's own 'ToroAir' toroid-wound, air core inductors (which space does not permit me to describe in as much detail as these very special inductors probably warrant).

Put simply, YG Acoustics not only pursues cutting-edge loudspeaker performance and technologies, but also is obsessed with achieving the highest-possible quality in both materials and assembly processes. In fact, perhaps the best way to think of YG products would be to picture them as the sort of loudspeakers that ultra-high-tech defence contractors might build if they ever decided to apply themselves to the art and science of high-end audio. But when the music finally meets the metal, so to speak, are the results as impressive as we might hope?

Let me start by stating unequivocally that the Carmel 2 really does sound better than the already-excellent first-generation Carmel. Those who have heard and enjoyed the original Carmel will know that this is no mean feat because the first Carmel enjoyed a reputation for being YG's 'magical' model—the model where a confluence of complex musical performance variables made for a loudspeaker that was extremely revealing yet unfailingly musical and that seemingly could do no wrong. Coming into this review, then, I couldn't help but wonder if the Carmel 2 would actually be a step forward. As it turns out, though, I needn't have worried since



the YG team was most definitely on its 'A' game when it created the Carmel 2, meaning that it handily outperforms the original Carmel in virtually every way.

First, I found the Carmel 2 to be more detailed, more revealing, and more finely focused than the original Carmel, yet at the same time it also delivered a noticeably smoother and more coherent presentation. Honestly, this is a rare and desirable combination, since many loudspeakers that offer 'enhanced detail' all too often extract a toll in the form of unwanted rough edges or excess upper midrange/treble brightness. With the Carmel 2, however, this simply is not the case; instead, the speaker digs out more low-level textural and transient information than either the original Carmel or most of the other speakers I've heard in its price class, yet it does so without imposing any noticeable sonic penalties ►



*“It’s just that it goes about its work without so much as a trace of obnoxious edginess.”*

► (well, apart from the fact that it will inevitably show how and where poor recordings stray from the path of sonic goodness). Stated another way, the Carmel 2 gives us substantial musical gains, without any sonic ‘collateral damage’ whatsoever.

Second, the upper midrange and treble regions of the Carmel 2 enjoy noticeably greater freedom from grain than do those same regions as heard either in the original Carmel or in contemporary like-priced competing high-end loudspeakers. For this reason, ‘silkeness’ (or perhaps ‘silky smoothness’) is a term that comes up early and often in any discussion of the Carmel 2’s sound. It is important to understand that this is not the sort of ‘silkeness’ that is audiophile code-speak for ‘a speaker that sweeps sonic problems under the rug or glosses them over with a layer of artificial sweetness. On the contrary, the Carmel 2 is highly transparent and revealing; it’s just that it goes about its work without so much as trace of obnoxious edginess or abrasiveness.

Put on a recording that is rich in upper midrange and treble spatial and reverberant details, such Zhao Cong’s ‘Moonlight on Spring River’ from *Sound of China* [Focus] and the benefits are immediately apparent. Instead of presenting soundstages comprised of multiple two-dimensional layers of sound, much like photographs slid atop one another in a folder, the Carmel 2s instead creates unusually deep and strikingly three-dimensional (indeed, almost sculptural) soundstages, while also conveying the sense of air as a fluid medium that gently surrounds and support each of the instruments in play.

For a speaker that is not terribly large in volume, the Carmel 2 demonstrates truly astonishing power handling capabilities and vibrant, full-bodied dynamics. It also belies its modest size by serving up surprisingly deep, powerful, and extended bass. You can happily play rhythmic and percussion-orientated material through the Carmel 2, such as the bouncy, funky, and appropriately named ‘Bass and Drums’ from John Paul Jones’ *Zooma* [Discipline Global Mobile] without feeling any need for a subwoofer or larger speaker. Crank up the volume to realistic levels and the Carmel 2 just grins and plays along, typically taking anything you might care to play in its stride. The same holds true when playing pipe organ material rich in low-frequency content, which the Carmel 2 happily reproduces with powerful and shuddering depth tempered by an excellent measure of control.

## TECHNICAL SPECIFICATIONS

**Type:** Two-way, two-driver floorstanding loudspeaker with an acoustic suspension enclosure  
CNC-machined from solid aircraft aluminium.

**Driver complement:** One 27mm fabric-dome ForgeCore tweeter, one 184mm aluminium-diaphragm BilletCore mid-bass driver

**Frequency response:** 32Hz – 40 kHz, ± 2dB, ±5° relative phase throughout the entire overlap (region between the mid-bass driver and tweeter)

**Impedance:** 4 Ohms nominal, 3.5 Ohms minimum

**Sensitivity:** 87dB/2.83V/1m 2 $\pi$  anechoic

**Dimensions (H x W x D):** 103 x 23 x 31cm

**Weight:** 34kg per speaker, unpackaged

**Finishes:** Black or Silver anodised aluminium

**Price:** £22,000/pair

**Manufacturer Information:** YG Acoustics LLC, 4941 Allison St. Unit 10, Arvada, CO 80002 U.S.A.

**Tel:** +1 801-726-3887

**URL:** [www.yg-acoustics.com](http://www.yg-acoustics.com)

**Distributor Information:** Padood Ltd., CBI Business

Centre, Twenty Station Rd., Cambridge, UK CB1 2JD

**Tel:** +44-1227-653199

**E-mail:** [info@padood.com](mailto:info@padood.com)

Such impressive performance should not be all that surprising given two factors in the Carmel 2’s design. First, the speaker’s drivers and especially its crossover network were developed with high power-handling in mind, and second Carmel 2’s usable bass response extends all the way down to 32Hz, which counts as genuinely low bass by any rational standard. Unless you like listening to subsonic blasts at near deafening levels, you should find that the Carmel 2 serves admirably as a satisfyingly full range loudspeaker—or at least it does when used in mid-sized rooms like mine.

While the Carmel 2 is a relatively compact loudspeaker, please do not be deceived by its size. This compact and exquisitely made floorstander is a legitimate ultra-high-end loudspeaker—one that offers transparency, detail, neutrality of voicing, and overall refinement comparable to YG Acoustics’ larger and significantly more expensive Hailey and Sonja loudspeakers, but in a smaller package and at a more manageable price. The Carmel 2 is without a doubt an unqualified design triumph. ►





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## Putting It All Together

- In the venerable film *The Karate Kid*, an aging and improbable martial arts master tells his young pupil (and I'm paraphrasing, here), "When balance is good, everything is good." So it is with high-performance audio systems. In the system I assembled for this issue, each element contributes to the overall balance of the whole.

**Sources:** In this system, the brilliant AURALiC ARIES wireless streaming bridge (likely to be the subject of a future *Hi-Fi+* review in its own right), serves as a highly capable and extremely easy-to-use virtual server that places the contents of hundreds and hundreds of recordings—in CD resolution, high-resolution PCM, DXD, and DSD formats—at my fingertips. The ARIES offers very nearly top-tier performance while conferring upon digital files a certain quasi-analogue-like smoothness. The PS Audio PerfectWave Memory Transport (reviewed in issue 125), is in turn a superb, very low-jitter, and extremely transparent-sounding digital disc transport, which comes in handy when seeking that elusive 'n<sup>th</sup> degree' of performance or when playing discs that have not already been ripped to my music library.

**DAC/preamp:** The PS Audio DirectStream DAC (also reviewed in issue 125) impressed me from the beginning with its satisfying combination of resolution, transparency, and an effortless and free-flowing presentation that reminded me of high quality analogue tape, but without the tape hiss. However, with the installation of PS Audio's new Yale OS software, the DAC's performance has taken a big leap forward, becoming quieter, smoother sounding (and it was already very smooth), and even more capable of resolving fine, low-level sonic details. This, as it turns out, is a very good thing because the other system elements are fully capable of making good use of as much high-quality musical information as you can feed them.

**Amplifiers:** GamuT's powerful, agile, and very refined M250i monoblock amplifier proved, as I've said, revelatory for me. I chose this word because the amps have proven to me that it really is possible to have amplifiers that deliver blockbuster amounts of power and killer levels of resolution while at the same time exhibiting Bruce Lee-like agility and reflexes, plus an elusive touch of David Oistrakh-grade

soulfulness and expression. In short, these amazing amps let you 'have your cake and eat it too', musically speaking.

**Speakers:** YG Acoustics' Carmel 2 floorstanding loudspeakers faced the daunting task of replacing a well-loved, critically acclaimed, and award-winning classic: namely, the firm's original Carmel speaker. Happily, the YG folks knew exactly what they were doing when they developed the new model, so that it surpasses the original in every meaningful way. This moderately sized floorstander's list of sonic virtues would encompass most every quality that high-end speaker aficionados prize, save for the ability play very loudly in larger rooms or to plumb the most extreme depths of ultra low-frequency content (think mid-20Hz region and below). In short, this is a brilliant do-all design, but one whose most striking aspect may be that it offers sonic gains across the board, but without imposing any of the subtle sonic 'pains' that so many high-performance designs entail.

**Cables:** I chose AudioQuest digital cables for this system because in my experience they do a masterful job of conveying all the musical information that fine source components have to offer, without ever 'spilling a drop', as it were. I selected upper-tier Furutech power, interconnect, and speaker cables because of their honesty and neutrality, and their ability to transmit audio signals without overlaying so much as a hint of artificial tonal 'flavourings'. With a 'tell-it-like-it-is' system such as this one, absolute honesty in cabling is what you need and what you want.

Finally, of course – how do these elements work together? Well, it wouldn't have made it onto the page if it didn't work well, but the end result here is an extremely revealing yet also effortlessly musical system that is a joy to listen to with virtually all types of music and that can capture (and hold) listeners' attention for long periods of time. In short, it's a system that in more ways than I can possibly list here makes music sound beautiful, both intellectually and emotionally engaging, and full of energy and life. I can truthfully say it's the best all-around system I've yet put together in my home, which means that it will be a very sad day for me when it comes time to send the system's constituent components back to the talented manufacturers who made them. +



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Hifi+ Issue 124



# MELCO

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# Audio Research, Wilson, Crystal, and HRS system

by Roy Gregory

**H**igh-end' is a term with specific meanings but also less specific implications. In audio terms, it's not just about performance but a particular style of performance. Historically speaking, it exhibits distinct leftist leanings (left of the Atlantic that is), no surprise given that the term – indeed, the whole concept – was first coined in *The Absolute Sound* magazine by the late, great Harry Pearson. Ask most audiophiles to draw a quick sketch of a typical high-end system and you'd probably end up with something that looked remarkably like the system featured here. Again, that's no real surprise, given that in UK terms at least, you don't get much more 'high-end' than Audio Research, Wilson Audio, and of course Absolute Sounds, the distributor named for the US magazine but responsible for introducing US high-end products and thinking to the UK market.

What is more, this system contains current versions of two early high-end icons. Wilson Audio's Watt/Puppy speaker system quickly became (and remains) a high-end benchmark, one of very few imported speakers to enjoy any real success or longevity in the UK market, while it was Audio Research's pre-amps and especially the two-box SP10 that were the first products to introduce the UK market to a world of performance (and price) that stretched out beyond the flat horizons of Linn and Naim. The size and nature of UK rooms also played its part in creating a firm preference for compact speaker systems (at least in high-end terms) and single chassis stereo power amps. In fact, what you have before you might well be described as not just the current incarnation of several classic high-end products, but the modern embodiment of the archetypal UK high-end solution.

Over thirty-years young, Wilson's Watt/Puppy evolved out of a near-field location monitor, first gaining a range of accessories to try and extend its bass before finally gaining an optional conjoined sub to turn it into a credible domestic speaker system. Now in its tenth iteration, it's a neater and far more elegant product, having cast off its studio roots. These days the subs are no longer optional although it remains a four-box set up; that evolution reflected in the adoption of the Sasha name, bringing it in line with the rest of a family that stretches all the way from Sabrina to Alexandria. The

latest Sasha 2 employed here boasts further developments of the baffle and head-unit to better integrate the established 178mm midrange driver with the new silk dome tweeter, adapted from the unit developed for the flagship Alexandria. The baffle itself is now constructed from Wilson's proprietary phenolic material and angles the two drivers individually. Beneath the back of the head unit is a machined ten step, sliding 'staircase' that engages with the single rear spike and allows the baffle to be precisely angled and set relative to the bass units to allow for the listener's height and distance from the speaker. The bass unit retains its two 200mm pulp-coned drivers a side, along with the interchangeable casters and spikes that are such an effective (and necessary – the Sasha 2s weigh over 90kg each) aid to set up. It would be easy to point to the introduction of that soft dome tweeter and stepped baffle as the big news here, but despite the fact that this is the first W/P version to eschew the inverted and latterly titanium dome used in all previous models, that would rather miss the point. The Sasha 2 is simply the latest step in a long but steady evolution – and evolution by its very nature involves subtle change. The Sasha 2 might offer more outwardly obvious clues than previous steps in the progression, but make no mistake: this is still very much a Wilson, and very much a Watt/Puppy.

Audio Research's Reference 150SE power amp and Reference 10 line-stage have enjoyed a similar, evolutionary development path to the speakers they are paired with – albeit not quite as long or unbroken. The Ref 150SE can arguably be traced all the way back to the D90, although its true, spiritual roots lie in the D115 with its four 6550 output tubes per channel. Like the Sasha 2 it can also claim a key technology innovation, being part of the company's first range to use the KT150 output tube. But that SE designation indicates more than just a change in output tubes, with the KT150 demanding totally different filament and bias supplies as well as revised output transformers. The enclosed chassis is cooled by a pair of rear-mounted fans whose speed (and thus the noise they generate) can be adjusted using two small switches concealed under the cover: Not the quietest, they arrive set on the highest speed, which you might want to reduce if you are using the amp in an open setting as opposed to a rack, or near the listening seat. ▶







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"I was struck by the claim, made by PS Audio's CEO Paul McGowan, that the processing done by the DirectStream results in superior playback of CDs. I heard more musical detail from CD than I had previously had. This detail was genuinely higher resolution manifested by greater differentiation among the sounds of instruments and rhythmic patterns. Quite amazing".

**Robert Deutsch – Stereophile Feb 2015**



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*“We can only listen to a system. The best systems are considerably greater than the sum of their parts and this one is a case in point.”*



► ARC has a long history of producing legendary twin-chassis preamps and the Reference 10 is going to do nothing to damage that lineage. Roughly amounting to the “(almost) everyman” evolution of the limited production 40th Anniversary Edition reference line-stage, it employs a number of significant refinements in componentry over its predecessor, along with a touchscreen user interface paired with a single, large volume control rocker. Sadly lacking the pleasing symmetry of previous ARC flagship preamps, my initial disquiet was quickly dispelled by the utterly intuitive and ultra positive control and switching options offered by the touchscreen. I’ve been saying for a while that if hi-fi manufactures are going to move to touchscreen control, they need to make sure they execute it to the same standard as Apple and the iPhone/iPad: that’s exactly what ARC have done here and the results are as reassuringly clear as they are easy to use. With a full suite of both balanced and single-ended, fully configurable inputs and outputs, the Ref 10 is as versatile as it is capable, perfectly suited to the task of driving the balanced input only Ref 150SE.

Of course, we could have paired the Ref 10/150SE with a Ref 2 or Ref 10 phono-stage and an appropriate record player (Absolute Sounds would doubtless suggest a TechDas) but in the spirit of keeping things iconic, we stuck to an all ARC solution, using the Ref CD9 as the system’s primary source component. A top-loading CD-only machine, the CD9 nonetheless embodies current digital thinking with a host of up-sampling and filter options as well as digital and USB inputs, allowing it to act as a DAC for multiple digital sources, including file replay at data rates of up to 24bit/192kHz. I did dabble with the USB input, but primary listening for this review centred on the all ARC chain and optical discs, a choice that produce such impressively engaging results that for once I really wasn’t tempted to look elsewhere.

System reviews are often seen as somehow limited: they only apply if you use the whole system together. Unfortunately guys, that’s true of audio in general and it’s the individual product review that’s out of step. We can’t listen to an amplifier or a CD player – we can only listen to a system. The best systems are considerably greater than the sum of their parts and this one is a case in point. Rather than fixating on the individual contributions here, what’s more interesting and useful is understanding just how we reached this state of grace. Yes, I can marvel at the sweet top-end and overall spatial coherence of the result – and it would be easy to put that down to those revisions in the Sasha 2. But do you really think that the Ref 10 line-stage isn’t playing a part? In fact, if I’m going to start pointing fingers at what makes this system work so astonishingly well, it’s the Ref 10 that’s going to get the attention. Sure, the CD9 has to deliver the signal and the Ref 150SE and Sashas have to preserve and project it, but it’s the line-stage that invests it with the sheer musical integrity and authority that I’m hearing here, that provides the firm footing for take off and the glue that binds the whole thing together.

There are other, equally important factors at work too. Taking the system coherence concept a stage further, Absolute Sounds ensured that I was using a full set of Crystal Cable’s Absolute Dream to hook up the AC supply, distribution, balanced signal path, and speaker cables. They would have insisted on sticking everything in an Artesania rack too, but I drew the line there, given that I’ve already got a number of other racks in-house and under review: The listening room would have looked like a furniture depository. Instead, they (somewhat grudgingly) ‘allowed’ me to use the excellent HRS RXR rack, equipped with a mix of M3X and R3X shelves, Nimbus couplers, and damping plates. As impressive as the system sounded when first fired up, it was a number of these final steps that really elevated its performance. Switching ►



the speaker connections from the 4 Ohm to the 8 Ohm taps on the Ref 150SE introduced a remarkable increase in presence, immediacy and dynamic authority – despite the fact that the Sashas represent a solid 4 Ohm load, with a minimum impedance that barely scrapes above the 2 Ohm mark. Placing HRS damping plates on the rear top of the CD9 and running down the spine of the Ref 150SE's cover produced the kind of increase in harmonic resolution, and dynamic definition, along with a reduction in grain leading to a much blacker background, that was hard to credit – until you look at the quality and resolution of the equipment involved. If this system might be considered a window, it's a window Canaletto might have used to view Venice, instantly reflecting any change in light or shade, just as it immediately reacts to any shift in musical weight or emphasis.

Wilson speakers and ARC electronics have always done the space thing. From the starkly spot-lit, walk-in soundstages of early Watt-based systems, to the expansive warmth and presence of the SP8 and 10, these quickly became both sonic trade marks for the respective brands and sticks their detractors beat them with: too clean; over-etched; too warm; too soft; no sense of pace, rhythm or timing – that last the most damning criticism of all. Well my, how times have changed! While the flat earth long ago started to curl up at the edges, the high-end also embarked on embracing those contrary views. In the last few years, musical integrity has stepped right to the centre of the high-end stage, with an increasing awareness of the relationship between direct and reflected energy informing a deeper understanding between the notes and the acoustic space in which they're played. Increases in performance are never linear across different elements in a system or different technologies: you don't always hear what a change can do because other elements in the system are masking it. But occasionally, just occasionally, you get one of those happy accidents or coincidences where advances across a system and across different manufactures happen to fall in step, creating a step change in performance. That's exactly what we have here.

Sit the original Sasha and the Sasha 2 side by side and there's no doubting the increased dynamic, musical, and spatial coherence of the revised speaker. Truer harmonics, a broader tonal palette and sweeter, more natural balance are valuable by-products, but the key musical results lie in its more emphatic delivery, its ability to sound both more delicate but also more purposeful. At the same time, the switch to SE status has allowed the Ref 150 to deliver its power in a more unimpeded way, with a greater sense of substance and flow. Now throw in the fact that the Ref 10 has taken the

relaxed, unforced, and spacious presentation of earlier ARC Reference line-stages and added considerable focus, and resolution, while also anchoring the whole musical edifice to a firmly planted sense of time and place and the remarkably impressive musical results start to make a whole lot of sense. Bind those changes together with a carefully considered and totally coherent system infrastructure and you really hear the benefits. In the case of Absolute Dream, the cables don't just come from the same range; each and every cable throughout the system employs identical conductors, construction, and materials. Likewise, the HRS supports employ a completely integrated approach to both isolating the equipment from the





*“There’s a temporal security, a sense of each note having a place and being in its place.”*

- ▶ outside world and isolating the signal path from microphony generated within the equipment itself. These are not ancillaries or accessories: both supports and cabling are crucial elements of the system as a whole that you underestimate at the peril of the musical performance that results.

And what a performance it is. Play familiar recordings on this system and you’ll be astonished at the sheer presence it brings to the performance. If the mark of a great system is to bring the original event, the sense of that performance into the room with the listener, then this is definitely a great system. It’s partly to do with the size and dimensionality of the acoustic, partly to do with the system’s ability to track shifts in level and dynamic density. But it’s all to do with the natural perspective, scale, and the lucid clarity it brings to proceedings. It doesn’t matter whether you are playing classical recordings from the Decca Analogue Years box, or contemporary rock or pop recordings; you’ll immediately recognize the unforced quality, with all the effortless flow and dynamic response, presence and rich tonality that have long been familiar in ARC-based systems. But where this system takes a significant step forward is in terms of its almost physical sense of substance, of concentrated energy and musical purpose.

It’s down to that planted quality I referred to earlier. There’s a temporal security, a sense of each note having a place and being in its place, that brings a wonderful, natural inevitability and flow to the performance, whether it’s the restraint and hesitations of a Nanci Griffith or the joyous, propulsive riot of Paul Thorn covering ‘Doctor My Eyes’. There’s a new-found sense of musical purpose to this latest generation of ARC and Wilson products that gives music an unmistakable and incredibly natural sense of direction. Combine that with the impressive presence and substance and it reveals an immediacy that makes listening a compelling and engaging experience. Throw in the ability to capture the texture of instruments, the character of a voice, and suddenly you find yourself being pulled into the music. Few systems I’ve used allow you to forget the system itself quite as completely as this one. Few systems I’ve used encompass different genres with such ease and scale the dynamic shift from solo voice or instrument to large ensemble with such comfort. When Lorin Maazel calls for the bass drum and timps to punctuate a point in his Sibelius One, it’s point that gets made and stays made.

## SYSTEM COMPONENTS

**Audio Research Reference CD9** Price: £10,998

**Audio Research Reference 10** Price: £25,998

**Audio Research Reference 150SE** Price: £11,998

**Manufacturer:** Audio Research Corporation

**URL:** [www.audioresearch.com](http://www.audioresearch.com)

**Wilson Audio Sasha Series 2** Price: £30,998/pair

**Manufacturer:** Wilson Audio Specialties

**URL:** [www.wilsonaudio.com](http://www.wilsonaudio.com)

**Crystal Cable Absolute Dream** Prices: from £10,000

**Manufacturer:** Crystal Cable

**URL:** [www.crystalcables.com](http://www.crystalcables.com)

**UK Distributor:** Absolute Sounds Ltd

**Tel:** +44 (0)208 971 3909

**URL:** [www.absolutesounds.com](http://www.absolutesounds.com)

**HRS RXR Rack with M3X and R3X shelves**

**Prices:** from £1,280

**Manufacturer:** Harmonic Resolution Systems

**URL:** [www.avisolation.com](http://www.avisolation.com)

**UK Retailer:** The Audio Consultants

**Tel:** +44 (0)118 981 9891

**URL:** [www.audioconsultants.co.uk](http://www.audioconsultants.co.uk)

Those who’ve dismissed older ARC electronics as lazy, or past Wilson speakers as splashy and disjointed owe themselves another listen, because this system is special. It takes all of the spatial, tonal, and textural qualities for which ARC products are justifiably renowned, all of the Wilson speakers’ dynamic range and projection, and binds them to a solidly anchored musical structure that is full of life, intent, musical energy, and (that word again) purpose. It captures the motivation, the space and the atmosphere of recordings – and it brings it, nervous, hesitant, kicking or screaming into your room. If you want to experience that expectant hush that falls when a conductor raises his baton, or the muggy atmosphere and sticky floor of some backstreet gig, this system can take you there – because that’s what it is and that’s what it does. This is a system that does indeed exceed the sum of its very considerable parts. You’ll pay (handsomely) for the pleasure but that’s not really the point. In the real world you’ve either got the money or you haven’t. For the rest of us, this system stands both as an example of what “high-end audio” is all about – and just what’s possible. +



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## Lindemann/ProAc system

by Alan Sircom

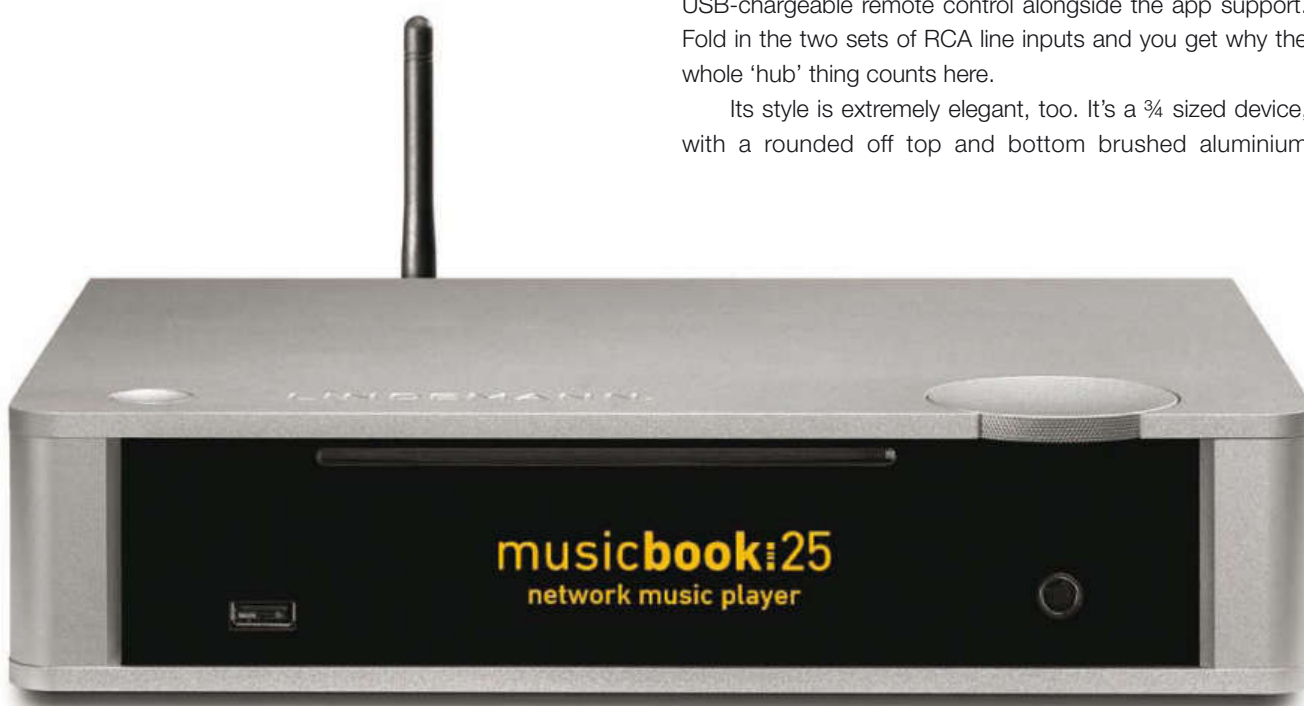
Often, when building a system, it's a good idea to put yourself in the hands of a dealer you trust. Done right, such systems produce rare and wonderful results, as with the system reviewed here, made of German audio electronics from Lindemann, and fine UK loudspeakers from ProAc, and put together by Noel Cloney, of Cloney Audio.

Those with an archive of *Hi-Fi+* issues might remember Lindemann as a maker of a very nice CD, amplifier, and loudspeaker system under the 800 Series, which was reviewed by Chris Thomas in issue 98. Since that time, the German Lindemann company has undergone a complete reboot in terms of its product line. The company now has just a handful of products in its musicbook: Series; two DACs, two network players, and two power amps. Although the DACs and network devices have provision for connecting 'legacy' analogue line inputs, Lindemann's musicbooks are really designed as complete standalone systems, which possibly shows both how far the audio industry has come in recent years, and where it's going.

In reality, most people are going to choose either the network player or the DAC and use it with an amplifier. The use of both network player and DAC is unlikely. Lindemann is obviously highly aware of this, because both share common components in terms of line inputs, outputs, and functionality. Noel chose the network player (in this case the musicbook: 25) for this system, but we also have one of the DACs lined up for an upcoming test. This brings Ethernet streaming and a handy Apple/Android app to control the system (the DAC, by its very nature, implies your computer will be sitting close to the system and that does all the 'legwork').

The term 'digital hub' has become hackneyed of late, but it's entirely relevant in the case of the musicbook: 25. It covers almost all the bases, except for SACD replay and DoP (DSD over PCM) support. It has a slot-load TEAC-based CD player, two S/PDIF and two Toslink inputs, and one of each for digital outputs. It has both a wired and wireless Ethernet input, and can support UPnP, and vTuner internet radio. It has a front mounted USB socket for both thumb drives and hard drives. There's even a dedicated Class A headphone amp, both balanced and single ended outputs, and an elegant USB-chargeable remote control alongside the app support. Fold in the two sets of RCA line inputs and you get why the whole 'hub' thing counts here.

Its style is extremely elegant, too. It's a ¾ sized device, with a rounded off top and bottom brushed aluminium





► clamshell, curved aluminium sides, a black 'business' end, a power button set into the left, and a knurled, large thumbwheel set into the right of the top plate. The OLED display is a surprisingly readable shade of yellow, which looks much better than it sounds. In sum, the whole musicbook: 25 exudes a sense of well-built solidity.

This is met and matched by the Lindemann musicbook: 55. This is a 240W per channel amplifier with balanced and single ended inputs. The amp is designed to be bridged to deliver 450W in mono mode should you require an upgrade, all packed into the same  $\frac{3}{4}$  size amplifier chassis. How this is possible comes down to the letters 'UCD', short for 'Universal Class D' amplifier module.

Lindemann's manual is an exercise in making the fairly complex task of putting a network streaming system together read like it's not a problem. This doesn't mean it hides things from prospective owners (resulting in a lot of headscratching and panicked phone calls and emails). Instead it guides you through the usual set-up procedure and offers some semblance of legitimate help should things go awry. This comes down to Lindemann building a digital front-end that doesn't require a secret-service codebreaker to configure, and to a clean and logical layout of the manual. If you can follow

the instructions to set up a TV or cook a meal, you can install the musicbook: 25.

There are even scaled down versions called the musicbook: 20 and musicbook: 50. The musicbook: 20 network player is basically the musicbook: 25 without the CD drive, while the musicbook: 50 is an 80W per channel, non-bridgeable Class D amp in the same musicbook: 55 chassis. In fact, the musicbook: 50 came before the musicbook: 55 in the development cycle, and the bigger, more expensive amplifier came about as a result of pushing the 80W musicbook: 50, which sometimes has difficulties driving low-impedance loads. The musicbook: 55 is an engineer's creative response to just criticism; unless you are trying to drive a pair of old Apogee Divas or welding together parts of a battleship, you'll rarely need more than a musicbook: 55.

Not that the ProAc Response D20R is what you'd call a 'difficult' load. The D20R is a simple eight-ohm load and has a sensitivity rating of 88.5dB, explaining why ProAc frequently demonstrates this loudspeaker with a Naim SuperNait in the UK. The D20R is essentially a variant on the extremely popular ProAc Response D18, replacing the 17mm dome tweeter with a custom-made 60mm x 10mm ribbon tweeter in the same offset position as in the D18 (which still remains in ►





If your hi-fi dealer loves vinyl,  
he will play it on a VPI Prime.

**Don't settle for second best.**





► the catalogue). The D20R keeps the same 165mm fibreglass weave mid-bass cone, with a phase plug and what ProAc refers to as its Excel magnet. In re-evaluating the D18, ProAc took the opportunity to rework the crossover network and remodel the bass loading – the port still fires into the floor, but the construction of this system has changed, giving the loudspeaker a more graceful bottom (something we can all appreciate) and making it easy to install in a wide range of listening rooms. ProAc also experimented with a new white finish in time for the Bristol *Sound & Vision Show* in February, and was surprised by the uptake, so now these classic loudspeakers are available in a tidy shade of pure white.

Whatever the colour of cabinet, I admit that this would never have been a combination of products I would have thought of putting together. There is no real reason for saying this; there are no obvious incompatibilities, and there is nothing up with using the electronics from one European country with the loudspeakers of another. It's just that there are so many possible permutations and combinations of products that this one would have taken years to fall upon. But having heard it, I'm awfully glad that someone did fall upon it.

This system brings together much of the convenience of Sonos with almost Apple-like levels of design and operation, and yet does so without sacrificing the sound quality in the process. Traditional audiophiles have their personal Rubicon to cross with Class D, and some will never make it. If you view it as just another form of output device, you'll fairly quickly find Class D falls into three broad sonic signatures; too warm, too bright, and 'goldilocks'. The 'goldilocks' point is all too rare, with just a handful of top-class brands enjoying the sweet spot. Well, now, you can add Lindemann to that select list of those getting Class D intrinsically right. This, coupled with the subtle performance of the ProAc's, works wonders.

Taken as a system, it's got a hugely graceful sound, with outstanding dynamic range, great bass and super-accurate midrange. It's one of those systems that never draw attention to their performance, and that is its greatest strength. In 'doing a Yoko' (breaking up the band), it became clear that this was also a common strength in all three components – the musicbook products reminded me of Primare's understated, yet intrinsically 'right' presentation, and the ProAc's overall balance just invited you into listening to the music and kept you there. Once again, the 'goldilocks' point springs to mind.

It really didn't make much difference what type of music you played through the system; it remained clean, clear, open, and informative. It was always musically charming without being saccharine, insightful without sounding 'etched' or hard, and energetic without being over-exuberant.

It's all too easy to whizz through one's music collection when streaming on a network. The iPad in your hand invites such a mindset. But through the Lindemann, although such a gallop through my musical past was easy, at no point did I feel the need to do so. I was just happy in the musical moment, and played more albums than snippets. This is a sign of something very 'right' going on across the system.

It's hard to find flaw for the money. No, the system doesn't have the home-shuddering dynamics, the extraordinary detail and transparency, the volume headroom, the bass extensions, or the seamless coherence of a system costing at least as much as an S-Class Mercedes. And the headphone amp, though good, is no match for the anointed standalone ones. But the thing is the Lindemann/ProAc combo gets close enough. Some think there is no such thing as a law of diminishing returns in audio, but you could be mistaken for concluding that line in the sand is drawn here.

If you listen really hard, you can just about hear the sound of audiophile statues being torn down. This system is part of the quiet revolution that is taking place in audio today. Ten years ago, such a system would have been possible – just – but it wouldn't have been any good. Such is the delta of change in audio that this system isn't just possible and isn't just good, it's at the core of what good audio is today. And, not long after you read this, the Lindemann will also be able to stream Tidal, Qobuz, and Deezer, adding more functionality and good audio to the mix. It would be excellent if the CD transport interacted more with one of the online music databases, to show more than title and track (such as showing the album cover on the app), and it would be fantastic (if almost impossible) to turn that CD transport into a ripper should you wish, but this is being picky.

There is an old-world caveat to this revolutionary zeal; a system this well-matched wouldn't have happened without a good bricks-and-mortar dealer who did due diligence to find a system whose components work together this well. The whole isn't significantly better than the sum of the parts, but I'd struggle to find a system that hangs together better. Cloney Audio proves that a good dealer is not the enemy, if they never forget who their customers are, and if they put together systems like this that work for those customers.

Truth is, I'm a little shocked at how good the Lindemann musicbook: audio equipment sounds, especially when the price is taken into account. ProAc, in fairness, is far more of a known quantity, but even so, we were expecting 'good', and got 'great'. But when you put the three boxes together... that's world class, and Cloney deserves high praise for putting them together. It's all very highly recommended! +





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Nordost Corporation  
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### TWEAKS

Room Tuning Resonators



**NORDOST**  
MAKING THE CONNECTION



Full range of Nordost cables White Lightning through to the new ODIN 2. We will take your old cables as trade in, so give Dave a call.



Audience cables have long been the first choice of many audiophiles in the US and are now gaining their admirers this side of the Atlantic. Now with the sensational 'OHNO' cables first used at the NWAS and starting at £169.99 for 1m RCAs they cover every budget.

## Raidho acoustics



## SCANSONIC

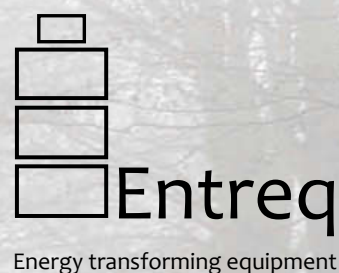


High End Cable have championed Raidho speakers from their introduction to the UK. We still use them at all our shows and at all our in house demonstrations. When you have the best speakers, why change? Please ask about our trade in and up grade programme.





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Nature is the best constructor ! That's why at Entreq we try to build in the same way . The result is a natural sound and a flow in the music that is seldom heard . There has been much said about the mystery of Entreq products ; how do they work ?

Do they work ? Why not listen for yourself and find out .

Any of our stockists would be happy to arrange a demonstration for you .

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##### Martins HiFi ( Norfolk )

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Grounding

Power

Signal

Cleaning



## TECHNICAL SPECIFICATIONS

### Lindemann musicbook: 25 network player

**Supported formats:** MP3 max. 320 kbit/s VBR/CBR | WAV and AIFF max. 192 kHz / 24 bit | FLAC max. 192 kHz / 24 bit | ALAC max. 96 kHz / 24 bit | AAC | Ogg Vorbis | WMA (only Standard, no Pro and Lossless) Gapless playback with WAV, AIFF, FLAC, ALAC, MP3

**Ethernet:** 10/100 Mbit/s

**WLAN:** 802.11b, g, n. 2.4 GHz band. WEP, WPA, WPA2 safety support. External screw-in antenna DHCP and static IP support

**USB 2.0 host interface:** fullspeed and highspeed mode. Charging of smartphones and tablets up to 2.1 A. Support of mass storage devices with FAT16/32 file system, e.g. USB sticks, USB harddisks, smartphones and tablets

**Internet Radio:** vTuner

**CD Player:** Slot-in drive (TEAC) with CD text support

**Digital/analog converter**

**Inputs:** two optical and two coaxial digital inputs (75 ohms) for SPDIF signals (LPCM) up to 192 kHz and 24 bit

**Outputs:** one optical and one coaxial digital output (75 ohms) for SPDIF signals

**THD & Noise:** <0.0005% (@ 0dBFS)

**Dynamic range:** >125 dB

**D/A converter resolution:** 352.8/384 kHz, 32 bit

**Converter architecture:** Anagram Sonic Scrambling DAC in dual-differential mono mode jitter performance 250 femtoseconds

**Jitter reduction:** >60 dB

**Digital filter:** minimum phase 'apodizing' filter

**Analog Inputs:** 2x line level inputs (RCA)

**Outputs:** one balanced (XLR) and one unbalanced (RCA) line level output

**Headphone connection:** 1/4" (6.35 mm) jack socket Recommended Headphone Impedance with 32–300 ohms impedance

**Frequency response:** 0–200 kHz (-3 dB)

**THD & noise:** <0.0005% @ 2.50 V output

**Dimensions (WxHxD):** 28x22x6.5cm

**Weight:** 3.50kg

**Price:** €3,900

### Lindemann musicbook: 55 power amplifier

**Inputs:** XLR inputs: analog line level inputs with 20 kOhms input impedance. RCA inputs: analog line level inputs with 10 kOhms input impedance

**Speaker outputs:** safety 4mm banana sockets

**Power output:** 240 W into 4 ohms per channel (<1 min)

**Maximum output current:** 16 A peak

**Gain:** 27.8 dB (24.5-times)

**Frequency response:** 0 Hz–45 kHz (-3 dB)

**THD & noise:** <0.05% typ.

**Dimensions (WxHxD):** 28x22x6.5cm

**Weight:** 3.7kg

**Price:** €2,800

**Manufactured by Lindemann**

**URL:** [www.lindemann-audio.de](http://www.lindemann-audio.de)

**Tel:** +49 (0) 8153.9533.390

### ProAc Response D20R loudspeakers

**Type:** Floorstanding ported two-way loudspeaker with ribbon tweeter

**Drivers:** ProAc 60x10mm ribbon with rear-chamber damping, 165mm ProAc unit fitted features glass fibre weave cone, Excel Magnet system, and acrylic damping phase plug

**Recommended Amplifiers:** 20 to 180 watts

**Frequency Response:** 28Hz to 33KHz

**Nominal Impedance:** 8 ohms

**Sensitivity:** 88.5 dB linear for 1 watt at 1 metre

**Standard Finishes:** Black Ash, White, Mahogany, Cherry, Maple

**Premium Finishes:** Rosewood, Ebony

**Dimensions (WxHxD):** 19x96x22.7cm

**Weight:** 26Kg each

**Price:** from £2,650/pair (depending on finish)

**Manufactured by:** ProAc

**URL:** [www.proac-loudspeakers.com](http://www.proac-loudspeakers.com)

**Tel:** +44(0)1280 700147

**System recommended by:** Cloney Audio

**URL:** [www.cloneyaudio.com](http://www.cloneyaudio.com)

**Tel:** +353 1 288 8477



## Faithful to the original ... since 1979

THE NEWSLETTER September–October 2015

In the 1980's the Music Room Newsletter was acclaimed as an unusual if not unique insight for customers. We aimed to be practical and honest – free from politics or entrenched interests. The Music Room was – and is – run by enthusiasts *for* enthusiasts. *Always Faithful to the Original.*

Then the internet displaced our Newsletter: you could access all information and products online ... or so it seemed. So much has changed yet so much has remained the same. Sadly the internet is completely manipulated as an industry by the industry.

The Music Room Newsletter now returns bi-monthly, to explore sonic frontiers, to go boldly where no others mention, without fear or favour. We work with manufacturers who are passionate idealists with distinguished products. A dealer is more than a reseller. For practical purposes a bargain is an illusion if the component is not right. Do not compare mediocre with average, but aspire to greatness. Synergy and matching, patience and long-term vision accomplish goals.

None of this is new, but here is our "Thought for the Day." Do not compare apples and oranges. Do not compare 2015 products with the torrent of used and ex-dem "bargains" because the measure of value changed.

### The digitization of music has handed manufacturers the opportunity to rip more than the CD's ...

The good manufacturers – those who despise persuasion and propaganda, so-called "marketing" – have reacted to the austerity and recession by changing the goal posts. They accepted that high-performance Hi-Fi became far too expensive until, in 2008, the bubble burst.

Let's illustrate our "Thought for the Day" with an example. Our Italian friends at Audio Analogue – one of the most enlightened and clever firm of aficionados – made a £10,000 Class A, integrated amplifier, an awesome instrument of overwhelming musical delight.

Now, the Puccini Anniversary is smaller and cheaper but ... can you guess??? So the mistake in 2015 is to buy used or ex-demo amplifiers unaware that they are dinosaurs. The £2,995 **Puccini Anniversary** is simple, solid, and plays music; it would have you much more until recently.

In tube technology the equivalent is the **Tsakiridis Aeolos** – an astonishing experience whose parts count and build quality alone should alert our attention to virtual bargains and true value. Costing an eye-watering £1,750 (less than its premium components cost, obviously the manufacturers can buy cheaper) you can have a home dem for a refundable £45 from John O'Groats to Lands End!

**VINYL IS THE TRUE HI-FI EXPERIENCE** for two reasons: (1) the listener is focused on the ritual and playback is like a concert recital. Also (2) vinyl is the format which preserves intact the analogue signal – all digital media process and lose fine detail.

*The Music Room's Jack Lawson has a passion for this technology and over 35 years experience combining motor, tonearm and cartridge for mechanical stability and sonic neutrality.* "I have also the experience of components from the screws and wires that good designers listen to as opposed to products that are mechanically correct but acoustically mechanical".

The vast majority of turntable products lack the spark of genius – many acclaimed brands and upstarts alike!!

### Our Top Ten Selling Products

As London shops sell the big brands only, many have travelled from the south to Glasgow and indeed we are now converting the upper gallery in our new city-centre showroom to more useful space. To entice you, here are some of the star products on demonstration which we refer to as the 2015 gamechangers. These are products whose value and revolutionary breakthrough ideas redefine Purchasing Power.

For further details, the longer version of this Newsletter – along with our Price List and weekly updated "Bargains" – visit [www.music-room.com](http://www.music-room.com).

But in brief our top-sellers from January to September 2015 are as follows:

- 1. The Grand Prix Monaco 1.5 Turntable and the TriPlanar 12-inch** Arguably the Gold Standard, the ultimate programme source. One reviewer told me that the Press should have flagged this turntable at its launch as a revolution.



**33-35 West Graham Street, Glasgow G4 9LJ**

All prices, products and bargains online at: **music-room.com**

**Hours:** 9AM–5PM Monday to Thursday or by appointment

**Tel:** 0141-333 9700

**Email:** musicroomglasgow@gmail.com

For further details, the longer version of this Newsletter – along with our Price List and weekly updated “Bargains” – visit **www.music-room.com**



2. **The Gryphon Kalliope** Listeners are calling the Gryphon Kalliope the world's first digital music convertor. From October you can buy a scaled down board for the new Diablo300, see below.
3. **The Abyss AB-1266** Once you bought electrostatic headphones but last year these planar magnetics redefined the state of the art. The thrill is unimaginable and equivalent loudspeakers would cost multiples of the £3,595 price, if they even exist!
4. **The Gryphon Diablo300** Launched at this year's Munich, this stand out product redefines amplifiers and adds ten years of design expertise to the outgoing Diablo. Starting to ship this October it is already a legend and don't forget its amazing small brother, the Atila at a healthy 100 watts per channel.
5. **Zingali Home Monitors** This distinguished range of Italian horn-loudspeakers was enhanced recently by significant revisions. The floorstander model 2.06 at £3,995 outperforms loudspeakers of vastly higher cost and larger dimensions. Clear illustration of the point of this newsletter: a used bargain is a waste of money.
6. **Puccini Anniversary Integrated Amplifier** New (shipping this month) from Italy is Audio Analogue's amplifier described above. Spend more than £2,995 on an integrated amplifier before hearing this and you may regret it. We sold two in the first week, and we still have to pinch ourselves!!
7. **The Yamaha 125 Anniversary Products** To celebrate its 125th year with roots in audiophile products and musical instruments this great company we have dealt with since 1979 launched three amps and three SA/CD players of inspired design, unrivalled build, and huge pleasure. Costing between £1,000 to £3,000 you really must see and hear Yamaha-125.
8. **The Lumin Network Music Players** Streaming and downloads strive to reach authentic / audiophile levels but people are jumping to convenience, at a price. The Lumin range has the advantages of simplicity and support but most of all, the cost is so reasonable that obsolescence in a few years will not be disastrous. The D1 at £1,590, for example, outperforms the big names with ease and the £750 L1 avoids all complications or the need for computer or NAS/ hard drives.
9. **The Nessie Vinylmaster** Back to purist vinyl, and new to The Music Room is this high precision, fine German build, silent and automated device to clean records thoroughly. New LP's yield mould release oil, old records lose dirt and bacteria in the grooves. With the low Euro we can offer this fine instrument at £1,490 including VAT.
10. **Roksan Oxygene** There have been many attempts to integrate lifestyle and audiophile but they are one or the other. Until now. Initial concept and design was by the Danish architect and audiophile Bo Christensen. Roksan did the rest. Truly, a ground-breaking and revolutionary amplifier and CD player.

**The big mistake buyers make is to buy old technology at half price ...**

**In Conclusion:** one thing links all of the above, our evergreen best-seller audio cables: JPS Labs. Now, SuperConductor-5. SC-V packs all JPS has learned into a stylish white and slim jacket. SC-V is earning admirers of people who believed that audio signals travel First Class only in hosepipes that cost the earth. As per the theme of this newsletter, the big mistake buyers make is to buy old technology at half price. They are losing their music as well as their money. Latest addition to the SC-V range, phono cables .... So, back to the start on this article. +



## German Physiks Omnidirectional Loudspeakers



**Unique DDD design** produces a very wide frequency range from a single driver

**Large, deep soundstages** well beyond the speaker boundaries

**Realistic stereo image** more like that experienced in a concert hall

**Focused images** and correct tonal balance in almost all positions in the room

**Very fast dynamics** and low level detail resolution from the very low mass DDD driver

**Contemporary sculptural** styling – priced from £8900

Our next Musical Event is to be held on October 17 & 18 at the Holiday Inn, Reading. More info [www.audioconsultants.co.uk](http://www.audioconsultants.co.uk)

info@audioconsultants.co.uk  
4 Zephyr House Calleva Park Aldermaston Berkshire RG7 8JN UK

AC/HFP/86

## Model 15 – The New Turntable from SME



**Inspired by the Model 10** but emulating technology within the Model 20/3 and 30/2

**Sub-Chassis suspended** with fluid damping to eliminate any bounce

**Ultimate recovery** of the finest details producing a most elegant sound

**Compact footprint**, simplicity of operation, understated styling

**Model 15** with matching **SME 309** precision tone arm £6884

Our next Musical Event is to be held on October 17 & 18 at the Holiday Inn, Reading. More info [www.audioconsultants.co.uk](http://www.audioconsultants.co.uk)

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AC/HFP/85



# Yamaha/Monitor Audio System

by Nicholas Ripley

**T**his system comprises the basic trio of components, the likes of which could have been at the core of an audio system 25 years or more ago, albeit brought up to date. The electronics are both from Yamaha's current flagship S3000 range, which consists of just two products: the CD-S3000 CD/SACD player, and the matching A-S3000 integrated amplifier. Meanwhile, the loudspeakers are the larger bookshelves from Monitor Audio's new Gold series, the Gold 100, which replace the popular GX100 models.

Yamaha has not skimped on its flagship pairing at all. These are products built to show what Yamaha is capable of doing when all the stops have been pulled out, and simply from the point of lifting either product out of its packaging, you know you aren't dealing with some middleweight. Take the CD-S3000 for example: hauling that out of the box, you could mistake it for a power amp, and a substantial power amp at that. It's comprehensively well built, right down to the disc drawer – no plastic, wobbly sled, this mech glides out of the front panel, is held in place with a positive, rigid feel, and gently withdraws to play your discs with military-spec confidence. You even have the option of spiked or normal feet.

The Yamaha CD-S3000 is not simply a disc player, because to survive as a CD/SACD player in 2015, a device also needs to support a range of digital inputs. The Yamaha CD-S3000 comes with coaxial, optical, and USB inputs. Yamaha supports DSD64 and DSD128 file replay, but rolls its own Steinberg ASIO driver for PC and Mac, and its website has a recommended configuration for Foobar replay. Essentially, instead of the more commonplace 'DoP' system (where the DSD file is wrapped in a pseudo-PCM outer shell to be read by compatible hardware and software) this sends native DSD files from computer to player. It's unclear whether DSD sounds better this way or through DoP, or indeed whether there is a difference to be heard at all. Both DSD and PCM files are fed through the player's ESS9018 32bit 192kHz Sabre DAC. The CD-S3000 has balanced and single-ended outputs.

Moving over to the A-S3000 amplifier, it's obviously reminiscent of those vast Japanese amps and receivers of the 1970s and 1980s, especially with its large VU meters. No fluro displays here, these are proper wagging needles illuminated by bulbs, the way things always used to be in the good ol' days. It has tone controls, and all the knobs and dials have the kind of solid 'thunk' and resistance to your fingers that ▶







WHITE LIGHTNING

PURPLE FLARE

BLUE HEAVEN

RED DAWN

# BRING YOUR MUSIC TO LEIF

## NORDOST

MAKING THE CONNECTION

Distributed by Atacama Audio

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► exudes old-school quality. Yes, these things appear facile and unimportant next to the technical details, but they ultimately inspire confidence in the product, and are not to be sniffed at.

The A-S3000 is a solid 170W design, with the accent on the solid – open it up and you might mistake it for a small Krell design, such is the size of the toroidal, the caps and the heatsinks behind those piano gloss end cheeks. It is massively over-built everywhere, and fantastic for it. It's a little old-school in its fairly limited options for phono (just MM and MC – at this level, there should be some adjustment of gain and load for MC), but the MC input is well-engineered enough to have a silent background, good gain, and pretty good dynamic range when used with the kind of cartridges that might partner a £4,000 integrated amp.

There is one important consideration here. Both CD and amplifier have the option of being run in either balanced or single-ended modes, with either a pair of XLR cables or a set of RCA wires. While the balanced option seems like a good idea on paper, in most cases you are best avoiding it, because the two devices sound very listless through their XLR inputs and outputs. Single-ended sounds better, a lot better.

Yamaha's audio equipment took something of a back seat to its audio-video and other products until recently, but with the S3000 models, the company is making a bold "We're back!" statement. And so is Yamaha's 'Natural Sound' concept, which lives up to the name, but is possibly at odds with the 'shiny, fast, forward' sound of a lot of modern electronics. Especially in the CD-S3000, which is an extremely refined and precise player irrespective of disc or data, or even what file type is being used. The A-S3000 amplifier puts more energy into its higher frequency performance than the player (it's not 'brighter'

just 'more energetic' in the mids and treble). I was always fond of the Natural Sound presentation, although with age I'm beginning to prefer a more forward sound in my own listening. But I think Yamaha's approach is less overt, more honest, and yes, more natural, than many rivals. OK, more immediate sounding devices will perform better in demonstration, but for long-term listening a more refined sound is preferable.

Monitor Audio has long been one of the most successful loudspeaker brands around, but in recent years the company has taken that success to new levels, and a key part of that unparalleled success is its ever-popular Gold line of loudspeakers. Monitor Audio's ethos from the outset has been to combine high technology drive units with beautifully finished cabinets and the rear-ported two-way Gold 100 standmount is no exception. This uses the latest iterations of the company's C-CAM ribbon tweeter (which extends to 60kHz) coupled with the brand's dimpled Rigid Surface Technology (RST) radiating dish bass driver, which uses a larger motor and longer voice coil than most bass cones, for longer cone excursion with less cone break-up.

This means lower distortion and more bass; this is a 165mm bass unit with the kind of response expected from a 200mm conventional driver, and the Gold 100 realistically reaches down to 42Hz. Also, despite a comparatively (by high-end standards, at least) modest price, the Gold 100 bristles with high quality components, including polyprop caps, air core and laminated steel core inductors. The Gold 100 is designed to be used at least 20cm from a rear wall, (although they can go closer if you insert the rear foam bungs).

My own exposure to Monitor Audio's designs has been fairly limited until recently, but their directness and vibrant ►





# GROUND-BREAKING SEISMIC PODIUM

A constant Force 1 earthquake is everywhere, with an amplitude of around 10 microns.

This swamps fine musical detail where the cone movement is a mere 0.01 microns and 1000 times greater than fine detail cone movement.

The Seismic Podium is designed to brake the acoustic connection between the floor and the speaker, preventing the passage of deleterious vibrations both to and from the speaker cabinet.

Break this link and the result is simply magical, the sound is transformed for every speaker, everywhere, every time.

*"A dramatic improvement. Organically placed instruments in a deep sound-stage Wonderful"* Jack. Martin Logan ES.

*"The effect on the sound quality is outstanding. Everything sounds much cleaner and clearer, but for me the best improvement is the purity of tone of the strings when listening to classical music. Previously I couldn't enjoy listening to orchestral music because the violins sounded so 'dirty', and I have spent years trying to eliminate the problem by experimenting with different DACs, interconnects and speaker cables without any meaningful results. I only wish that I had bought them earlier!"* RM

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► presentation has been a constant for years. There is an easy immediacy and energy to the sound that always strives to make music fun.

Like the Yamaha designs, the Gold 100 is an excellent performer in its own right, and like the Yamaha designs, it's one of a distinct character. The Gold 100 is supremely detailed, and exceptionally fast sounding, in the manner of Monitor Audio speakers of old, and while it follows in the footsteps of its predecessors, it is moving away from the 'lean and bright' sound of the original gold dome designs. The Gold 100 is more 'cut glass' than 'breaking glass', but that signature high frequency energy is still there. What the Gold 100 does is build substantial and significant soundstage size and depth to that energetic top. It also makes the midrange more open and vibrant. The thing about the Monitor Audio loudspeakers today is they offer a lot of loudspeaker for the money, and while they might not be the last word in stark neutrality or tonal accuracy, they more than make up for in 'fun factor'.

I enjoy the sound of both the Yamaha duo and the Monitor Audio for very different reasons. One is 'head', the other 'heart'. The Yamaha CD player is a satisfying, civilising force, with excellent soundstaging, extraordinary detail and vocal articulation, and compared to some of the more 'excitable' players out there, is more mannered and cerebral. The Yamaha amp is less controlled (especially in the midrange and high frequencies) than the player, but is equally civilising and refined across the board. The Monitor Audio, on the other hand, is more immediately impressive and entertaining. What I'd really like, however, is something that combines the refined elegance of the Yamahas with the fun of the Monitor Audios.

Combining the trio is no guarantee of success, for several reasons. First, this is not 'three wrongs making a right': the musical intentions of these products are distinct and correct for their end users. The 'natural sound' component of Yamaha's player and – to a lesser extent, the amplifier – is unforced and excellent, but might be too 'chilled out' for those looking for a more immediate presentation. Similarly, the Monitor Audio Gold sound is exciting and excellent, but might be too 'up front' for those after a more contemplative listening session. In combination though, there is synergy at play, and the two sonic signatures work in perfect harmony.

More importantly, the big risk in building a system up in this manner is the chance to get it mostly wrong. There was a risk that the characteristics of both would end up with a system that managed to iron out the good in all three devices and just leave a sound that is peaky in places and dull in others. Although there was a very slight emphasis on the upper mid that seemed to come from the amp-speaker ►





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*“Fortunately, the Yamaha and Monitor Audio trio were perfectly poised in partnership.”*

- meeting point, in fact this system managed to pull together the best in all of them. And the acid test of this is the need for ‘ancillary’ devices – if your system is crying out for equipment supports and cables to ‘fine tune’ an already fine-tuned system, you are lost. Here, the need for such devices was more to bring out what was already good in the overall system sound. There was no need to ‘shoot the moon’ and add cables that cost as much as the system, although the usual suspects (AudioQuest, Nordost) worked well.

Finally, the risk in putting together a system in dynamic balance is you can put it out of kilter with the wrong music. A system that works well should work well with all genres, and by trying to trade what works in one component with what works in another is almost asking for cracks to appear, where whole musical genres can fall through. I needn’t have been concerned, because the system performed extremely well playing Schoenberg’s *Verklärte Nacht* [von Karajan, Berlin Philharmonic, DG], because the combination of the beauty of the playing and the energy of the climaxes almost matches the system balancing act taking place. The same does not hold for music like ‘Light of Some Kind’, by Ani DiFranco [Not A Pretty Girl, Righteous Babe records], where the angular, percussive acoustic guitar sounds and her DiFranco’s close mic’d, very personal vocals need a system of complete poise and honesty to play properly. Fortunately, the Yamaha and Monitor Audio trio were perfectly poised in partnership. The almost relaxed tempo of the Yamahas counterbalanced the high-energy transient intensity of the Gold 100 extremely well.

This isn’t a perfect pairing. Sometimes the electronics tipped the sound over to easy-listening, and occasionally the upper mids briefly sounded ‘zingy’ and forward, but the key word is ‘balance’: On balance, the system was balanced enough to deal with the tonal balance of the balance of music you will play (unless you used balanced operation!). The parts are good, but the whole here is so much greater.

This system was something of an eye-opener for me. Components that I liked individually but like for entirely different sonic reasons mix together like some kind of audio chemistry lesson and the overall performance is a rare treat. I wasn’t expecting that kind of result, and it’s making me re-think the way we piece together systems on a fundamental level. Harry Potter would be pleased with the magic cast here! +

## TECHNICAL SPECIFICATIONS

### Yamaha CD-S3000 CD/SACD player

Disc compatibility: SACD, CD, CD-R/RW (MP3, WMA) and USB devices

Output Level: 2V ±0.3V (1kHz, 0dB)

Signal/Noise Ratio: 116dB

Harmonic Distortion: 0.002% (1kHz)

Frequency Response: 2Hz–20kHz (CD), 2Hz–50kHz, –3dB (SACD)

Dimensions (W×H×D): 43.5×14.2×44cm

Weight: 19.2kg

Price: £3,500

### Yamaha A-3000 integrated amplifier

Inputs: 1× MM/MC phono, three RCA line, 2× XLR balanced, tape and main RCA line inputs/outputs

Maximum power: 170W per channel, 4Ω, 1kHz, 0.7% THD

Frequency Response: 5 Hz–100 kHz (+0 dB/-3 dB)

RIAA Equalization Deviation: 20 Hz–20 kHz +/-0.5 dB

Total Harmonic Distortion: 0.025%

Signal-to-Noise Ratio: 103 dB (S: 200 mV)

Dimensions (W×H×D): 43.5×18×46.4cm

Weight: 24.6kg

Price: £4,000

Manufactured by: Yamaha

URL: [www.yamaha.com](http://www.yamaha.com)

Tel: 0844 811 1116 (UK only)

### Monitor Audio Gold 100

Type: bass reflex two-way standmount loudspeaker

Drive Unit Complement: 1x C-CAM ribbon transducer, 1x 165mm RST bass/mid-range driver

Crossover Frequency: 2.7 kHz

Frequency Response: 42 Hz–60 kHz

Sensitivity (1W@1M): 88 dB

Nominal Impedance: 8 ohms

Finishes: Dark Walnut, Piano Ebony, Piano Black, Gloss White

Dimensions (H×W×D): 36.2×21×33cm

Weight: 9.9kg each

Price: £1,250 per pair

Manufactured by: Monitor Audio

URL: [www.monitoraudio.co.uk](http://www.monitoraudio.co.uk)

Tel: +44 (0)1268 740580



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# Burmester BA31 floorstanding loudspeaker

by Alan Sircom

**R**eviewers sometimes pride themselves on their 'firsts'. I was the first UK reviewer to review a DVD player and the first to test plasma TV technology, for example. Occasionally, however, these 'firsts' are not something to be happy about – and this assay of the BA31 floorstanding loudspeaker will likely be the first review of a Burmester product not seen by Dieter Burmester, who died in mid-August this year.

When someone so strongly associated with a company passes away, there is a tendency for people to think the company dies with that leader. Witness the 'Apple is lost!' panic following the death of Steve Jobs. The reality is that a good leader creates a good team; a team that will be defined, but not hide-bound, by the legacy that good leader created, and a company that can and will survive after that leader has gone. In a way, such a pessimistic vision of a company's outlook is disrespectful to both the good leader and the team they created: Apple didn't disappear after Jobs died, and neither will Burmester in the years following Dieter's passing.

Part of the reason Burmester's future is assured is products like the new BA31, the second device in the company's new Ambience line of loudspeakers. The term Ambience is more than just marketing speak – at the back of the BA31 (and the original, larger BA71) is a second rear-firing Air Motion Transformer (AMT) folded ribbon tweeter, with a large level control, designed to introduce an extra degree of ambience into the system.

This is a radical departure for Burmester, in more ways than one. For some time, Burmester has been creating a range of smaller, slightly less uncompromising looking loudspeakers; less like the imposing B100 and more like, well, loudspeakers non-Burmester fans might buy. Speakers like the BA31 have one-piece front baffles that don't have a chrome insert shining back at you, and braced, curved MDF cabinets finished in domestically-chummy veneers and glosses.

Back-mounted AMT tweeter aside, the rest of the design is a two-and-a-half way, with a newly-developed version of the AMT tweeter, coupled with a pair of 170mm GRP-treated paper cone mid-bass units. It sits on a heavy, integrated plinth and four spikes, and there is a large rear-firing port, which comes with foam bungs that are a 'get out of jail free' card for close-to-wall locations. Well, almost free... if it's at all possible, get the loudspeakers at least half a metre from rear and side walls and between 2.5m and 4m apart. The manual is very clear and comprehensive on this: it also has a quaint throwback to past times, because the loudspeakers are not magnetically shielded. This means that anyone still using a cathode-ray tube television needs to keep ►





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▶ the loudspeakers at least 50cm from the loudspeakers to prevent magnetic field interaction. Presumably, that will undermine your viewing of upcoming episodes of *Beverly Hills 90210*, *Dynasty*, and *SeaQuest DSV*.

The loudspeaker is a diminutive floorstander by Burmester standards, but is still over a metre tall. However it is claimed to deliver -3dB points at 38Hz and at 45kHz, meaning a flat frequency response from about 40Hz on up, and this is realistic in a medium sized listening room. Moreover, although Burmester is known for its power-house amplifiers, its 87dB efficiency and benign impedance (nominally four ohms) means the BA31 could be driven by products from other brands (we used it very successfully with a Hegel H160 integrated amp, and there was no sense of unbalance or struggle). That being said, the advantage of more power and more current delivery means improved performance and integration at low listening levels, but the H160 was suitably 'grippy' to drive the speakers well at high volumes and low.

The rear connection panel is a little confusing, but actually extremely logical. It allows the BA31 to be bi-wired or bi-amped (the manual shows three different methods of bi-amping: 'vertical', 'horizontal' and dual-mono), but there is twice the number of terminals expected for such an arrangement. In fact, the explanation is simple; the outer WBT connectors are designed specifically for spade connectors, while the inner set are designed for 4mm banana plugs. There are jumpers designed to connect the HF and LF terminal blocks.

Although the ‘ambience’ rear-firing tweeter does what it says it does, and introduces a variable degree of ambience into the room, I think this is selling the BA31’s rear tweeter short. Carefully (and individually) adjusted, these rear tweeters act as universal room insertion devices. You can effectively dial the treble and even the midrange of the loudspeaker ‘into’ the room (sub-200Hz bass still requires its own passive or active treatment... or, if you are an audiophile purist, your own ability to listen past the room). Its benefits are immediately apparent, too. Dial the room in correctly and the soundstage just unfolds out into the room. Burmester itself suggests the speaker develops omnidirectional or dipole-like properties of soundstaging and this isn’t far from the truth. Correctly implemented in room, the ambience setting makes the ‘sweet spot’ in the listening position really, really sweet.



*“These are speakers that can play softly in the background, yet let slip the musical dogs of war when needed.”*

► This ambience control makes reviewing both easier and more difficult. Easier, because the results one hears in a listening room can be more readily translated to any other listening room, but more difficult because the degree of ambience can be adjusted to taste, making a definitive statement on the loudspeaker’s imaging properties dependent on how you like your dial tweaked. Ultimately, though, the BA31 is a loudspeaker that offers a neat take on creating good, personalised soundstaging in the room.

The BA31 does three very Burmester things very well indeed: it plays good, solid, and powerful bass lines (Dieter was, after all, a bass player), it plays at high levels without a problem (Dieter did, after all, like it loud), and it’s incredibly detailed (Dieter was, after all, an audiophile at heart). Sounds played on the BA31 rise out of a very solid foundation, with instruments rooted in place. Play something deep and powerful – whether that be Peter Hurford playing Bach on a church organ or Leftfield playing synthesisers in a studio – and you can raise merry hell. This also means you get to play menacing music that rarely sees the light of audio show day like ‘IM The Supervisor’ by Infected Mushroom on the BNE label (never, ever drive with this playing unless you like speeding tickets).

Burmester’s BA31 passes the ‘Just a Little Lovin’ test. Play the Shelby Lynn track, then follow it with Dusty Springfield’s version. Overly audiophile devices will point you in the direction of Lynn because of the recording quality, while more prosaic devices will make Dusty win out because of the integrity of the music. The BA31 showcases what is good about both versions of the track, without grace or favour to either. Similarly, on ‘Constant Craving’ from k d lang’s *Ingénue* [Sire] album, the overproduced, early 1990s mix is reproduced well, but doesn’t detract from the performance. A lot of audiophile loudspeaker systems accent the vibes on this track, while others just make this a bit of a syrupy mess. The BA31 helps bring out the chorus and the subtleties of the rhythm section in this softly-rolling – but deceptively ‘tight’ – country vibe.

Jazz and Classical are the speaker’s happy places, though. ‘Duke’s Mixture’ from Donald Byrd’s *The Cat Walk* (audio wave K2 disc) simply hangs together beautifully, the quintet perfectly ‘in the pocket’ and Byrd’s trumpet sonorous and sweet, yet extended. Pollini playing Beethoven late piano sonatas [DG] has similar class. The BA31 delivers a sublime sense of performance, more performance-stressed than impact oriented – it has that detail, but doesn’t over-stress this aspect.

I like to think of the Burmester BA31 as a Plantagenet king – simultaneously courteous and cultured, and capable of unleashing great power when it’s called for. These are speakers that can play softly in the background, yet let slip the musical dogs of war when needed. And it can be slotted into some difficult rooms with ease thanks to the Ambience system. If this is a part of Dieter’s legacy, it’s something to be proud of, and comes strongly recommended. +



## TECHNICAL SPECIFICATIONS

**Type:** Two and a half way ported floorstanding loudspeaker with rear-mounted ‘ambience’ drive unit

**Drivers:** rear: 1× AMT tweeter, front: 1× AMT tweeter, 2× 170mm cone mid-bass units

**Crossover frequencies:** 400Hz, 3kHz

**Frequency response:** 38Hz–45kHz (±3dB)

**Rated power:** 200W

**Efficiency:** 87dB (2.83V, 1m)

**Impedance:** 4–8Ω

**Nominal impedance:** 4Ω

**Finishes:** Macassar, light and dark walnut, solid white, solid black (all high gloss)

**Dimensions (W×D×H):** 25.3×105×37.5cm

**Weight:** 40.5kg

**Price:** £16,250 per pair

**Manufactured by:** Burmester Audiosysteme GmbH

**URL:** [www.burmester.de](http://www.burmester.de)

**Tel:** +49 30 787 968 0



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Paul Seydor of the Absolute Sound



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# Electrocompaniet ECG-1 turntable

by Alan Sircom

**A**t the turn of the century, LP was all but dead (every magazine was headlining 'final vinyl' features), CD was king, and SACD was the challenger to its throne. So who would have imagined that a decade and a half later, it would be LP that might end up the last physical format standing? Vinyl's reawakening in the 21st Century led to Electrocompaniet designing its first ever turntable, the ECG-1. It also led to the new ECP-2 balanced phono stage, which we shall be covering in a future issue.

There's a lot of negativity in audio, and a brand best known for audio electronics making its first turntable in 2015 could be a target for that kind of negative thinking. The turntable could be seen as simply cashing in on the record-playing boom. Or, it could be

considered to be a 'make weight' model, on the books simply to help complete the range and allow products like the ECP-2 to sell in Electrocompaniet specialist stores. However, the most cursory inspection proves the ECG-1 to be neither of those things, because that kind of cynical 'design' invariably involves placing the company's logo on an OEM turntable, and the ECG-1 is not just a Pro-Ject or Rega design wearing Electrocompaniet's distinctive gold on black livery.

Instead of adopting another company's turntable, Electrocompaniet built the ECG-1 from first principles, adopting some of the anti-resonance and vibration control that went into products like the EMC 1-UP top-loading CD player (now in its EMC 1 MkIII SACD player guise), and applying them to the unique demands of the spinning vinyl disc. This becomes most notable in the chassis, which is a sandwich construction formed of a layer of aluminium between an upper and lower layer of acrylic. The acrylic layers are good for resonance damping and control, but require a more structurally sound aluminium layer to add the rigidity needed to keep the arm and bearing in alignment and, in the process, prevent any speed control issues from small changes in motor-to-platter placement.

The motor itself is a 24V asynchronous AC motor in its own housing, driven by an external two-phase speed controller. The motor housing stands ▶





# Pure Clarity CARMEL 2

*"That the Carmel belongs  
in the reference class is  
unquestionable."*

*"I found myself completely  
unable to play short  
excerpts, the sound so  
captivating I simply had to  
play it through to the end."*

Phil Gold

Enjoy The Music, July 2015







*“The deck shouldn’t just be thought of as ‘the turntable for Electrocompaniet users’ but as a fine record player in its own right.”*

▶ almost completely independent of the main chassis, with only a single mini-DIN captive lead flying from the deck. This drives the basic speed controls in the Electrocompaniet’s signature four gold button layout – here, the buttons relate to turning the deck on or off, and 33, 45, and 78 rpm speed changes. There are no user adjustments to fine-tune speed.

Its platter is a thick acrylic design that sits deep in a recess in the top section of the chassis, and the belt sits around the outside of the platter. The belt, when first installed, can potentially slip under the platter and extracting it involves lifting the platter and the bearing housing; however, once installed the belt doesn’t ride up or down when playing.

Electrocompaniet may have started out with a clean sheet on the turntable, but when it comes to the choice of tonearm, the company turned to the tried and trusted 10”, oil-damped Jelco SA-750EB arm. Early reports also suggested the ECG-1 was to be bundled with a SoundSmith moving iron cartridge, but this seems to have been dropped from the final specification. This is both a good and a bad thing – good, because at this level most users will want to specify their own cartridge and will usually have the provision to install it, but bad because a SoundSmith moving iron is an almost perfect partner (I used it with Origin Live’s Aladdin cartridge from the same parentage, as well as a more meaty and historic Ortofon MC7500 to see what it was capable of). Fortunately, the arm is good for a wide range of cartridges, with masses between 4g and 12g.

Set-up is quick and easy, for a turntable. The feet are not level adjustable, though, and the turntable works best with a level, light, rigid, and vibration-free surface (a dedicated wall shelf is ideal).

It’s important to separate the ECG-1 from Electrocompaniet products, because the deck shouldn’t just be thought of as ‘the turntable for Electrocompaniet users’ but as a fine record player in its own right. However, Electrocompaniet also has a distinct family sound, and the ECG-1 is clearly a member of that family. There’s an unforced, easy, effortless sound common to many products in the range, and the ECG-1 follows that path, too. Never

brash, the ECG-1 stresses the tonal beauty of a recording rather than leading edges. It’s more about musical and emotive insights rather than barefaced detail retrieval. If the performance is full of energy, it will portray that energy, but the ECG-1 is not a turntable that imposes its own ‘zing’ to the replay process.

This tonal (and timbral) integrity comes shining through with albums like Beck’s *Sea Change* album [Mobile Fidelity], where it’s all about the emotional content of the (mostly acoustic) music; but it also does surprisingly well with ‘Living For The City’ on Stevie Wonder’s legendary *Innervisions* [Tamla/Motown], because the ECG-1 deals with the lyrics, not just the rhythm. The rhythmic aspects of the album are still there, because the album would collapse without its driving sense of rhythm, and there is no sense of Stevie Wonder suffering a funectomy (that came later in his career). Rather than stress the precision of the beat and that precision alone, the ECG-1 takes a more holistic view of the music. Those who define audio by ‘pace, rhythm, and timing’ will probably dismiss the ECG-1 as a result, but there are a lot of people who prefer a more complete picture, and one not dominated by one or two aspects of performance. ▶



*“In the real world, however, I suspect Electrocompaniet has pitched the ECG-1 turntable and arm perfectly as a complete package.”*

► The ECG-1's other great strength is spatial consistency. The soundstage cut into the groove is reproduced with tremendous accuracy. Whether it's a close-knit jazz combo playing together on a small stage, or a full orchestra playing in a large auditorium, the ECG-1 is adept at scaling the soundstage presented to the amplifier up or down accordingly. Unless it's on the recording, there's no sense of 30m tall singers, stretched pianos, or tiny guitars. A lot of this comes from the ECG-1's natural and unforced dynamic properties (it's extremely good at portraying those 'microdynamic' sounds within a larger sound-field, such as the triangle playing in the overture to the Pirates of Penzance [Decca]) and from surprisingly good image solidity: instruments are rooted in their positions in the mix, unless the engineer is experimenting with the pan pot.

There's a common theme emerging here, and one that holds well through the rest of the Electrocompaniet range: what the ECG-1 does is let you hear what went on in the studio. Not in a eviscerating manner (this isn't the kind of turntable that makes you want to write to an engineer and question their choice of microphones); it simply lets you into the studio and the control room.

I dislike reviews that reference another product, but in this case I can't help be sonically reminded of turntables like the Michell Gyro Dec. Both turntables have a sense of effortlessness about the performance; not 'unable to shift out of low gear' but instead the kind of audio presentation that doesn't draw attention to itself, and just keeps on playing music happily for year upon year. This is, I suspect, one of the great strengths of the ECG-1: it's not a player for those with Restless Ear Syndrome for whom any turntable is just a passing acquaintance. This is a turntable for keeps.

In a way, I'd love to see the ECG-1 available as a complete turnkey kit (with that SoundSmith cartridge) and just as a turntable with a range of cut-outs for different arms. The Jelco is fine and a perfect partner in its own right, but I can't help thinking the ECG-1 is capable of partnering some really top-end arms like Mørch or even something as esoteric as a Graham. I think the turntable is potentially capable of that in its own right.

In the real world, however, I suspect Electrocompaniet has pitched the ECG-1 turntable and arm perfectly as a complete package, both in terms of absolute performance and in the context of an Electrocompaniet system. As a consequence, I doubt many would go for a deck without a matching tonearm, and the Jelco is a perfect match. At first, I thought I'd find the name 'ECG' irresistible in terms of knocking out a few electrocardiogram jokes: at the very least, I planned to play Queen's *Sheer Heart Attack* on the turntable. But then it dawned on me the name is actually perfect for the Electrocompaniet ECG-1 and no punning is necessary, because for many vinyl lovers old and new, this will be the heart of their system. The first turntable from the Norwegian audio brand comes strongly recommended. +

## TECHNICAL SPECIFICATIONS

### Turntable

Operation: Manual

Drive system: Exterior (round) rubber belt drive

Motor: 24 V AC synchronous motor

Speeds: 33 1/3 – 45 – 78 RPM

Speed selection: Fully regulated electronically

Platter: 12" / 2.8 kg acrylic

### Tonearm

Operation: Manual

Profile: S-shaped

Headshell: (SME-mount)

Efficient length: 258 mm

Overhang: 15.17 mm

Offset angle: 21°

Tracking error - angle: 1.75°–1.25°

Cartridge weight: 4–12 g

Cartridge height: 38–60 mm

Moving mass: 21 g (cartridge screws (0,5 g))

Dimensions (WxDxH): 46.5x36x15.3cm

Weight: 14.3 kg

Price: £2,760

Manufactured by: Electrocompaniet

URL: [www.electrocompaniet.com](http://www.electrocompaniet.com)

Tel: +47 51 74 10 33



"To say the Continuum S2 comes highly recommended is putting it mildly – this is the kind of amplifier I could happily live with and never feel the need to upgrade ever again"  
*(Alan Sircom – Editor HiFi Plus)*



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# MartinLogan Motion 35XT loudspeaker

by Roy Gregory

I reviewed MartinLogan's miniature two-way Motion 15 loudspeaker back in Issue 98 and it was quite the surprise package. Small but perfectly formed, it was the musical performance that really impressed: here was a hybrid AMT/dynamic speaker that really worked, a miniature that really delivered – a rare beast indeed. With the benefit of hindsight, perhaps its astonishingly capable performance shouldn't have come as a surprise. After all, MartinLogan have been building hybrid designs for over 30 years and are also one of the few companies to crack the puzzle of actually delivering the potential cost/performance benefits of Chinese manufacturing (for the Motion series) with consistent quality. The Motion 15 stands as an impressive monument to the careful blending of Western expertise with the realities of global economics, a signpost to the future that can be enjoyed (and I do mean enjoyed) now. But the real question is, did MartinLogan – and the rest of us – simply get lucky with the Motion 15, or can they make lightning strike twice?

Outwardly, the 15's larger sibling, the Motion 35XT looks all but identical: same flawless lacquer finish, same beautifully contoured and machined baffle, same distinctive, sloping topped cabinet and same combination of pleated AMT treble unit and neat, aluminium-coned mid-bass driver. In fact, short of sitting them side-by-side you'd be hard pressed to tell them apart. The 35XT might be a couple of inches taller and deeper as well as an inch wider, but its growth is proportional, meaning that the pleasingly balanced appearance remains almost unchanged. But appearances can be deceptive. As well as the increased cabinet dimensions (and internal volume) the 35XT sports a 165mm driver in place of the 15's 133mm unit, as well as the larger XT tweeter. ▶







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*“Of course, there’s no such thing as a free lunch, but when it comes to designing loudspeakers you don’t even get a half-empty dish of peanuts. Every design choice involves its own associated compromises.”*

- ▶ 32mm on the diameter of a bass-mid unit might not seem like much, but do the maths and you’ll realize that it all but doubles the swept area available. Combine that with the larger cabinet and you are looking at a handy increase in bass weight and extension – an area in which the 15 already excelled.

Of course, there’s no such thing as a free lunch, but when it comes to designing loudspeakers you don’t even get a half-empty dish of peanuts. Every design choice involves its own associated compromises. In the case of hybrid speakers that attempt to meld the virtues of two differing driver technologies, those compromises can be potentially fatal. The Motion 15’s performance is built around the successful integration of its two disparate drive units. But increase the diameter of the bass driver and you impair both its ability to reach up into the mid-band and its dispersion characteristics, key considerations when it comes to seamless integration. Simply stick the Motion 15’s tweeter into a bigger box with a bigger bass unit and the results would be predictably awful and disjointed. Which is exactly where the larger XT tweeter comes in, a unit with just over twice the radiating area of the one used in the Motion 15. That extra area allows it to reach lower down the range, in turn allowing the designer to roll it in at a low 2200Hz, rather than the 2700Hz used in the Motion 15. The end result is a loudspeaker that has almost identical sensitivity and electrical characteristics to the Motion 15, the same seamless integration and musical coherence but extends the –3dB point from 60Hz down to the magic 50Hz point. Why magic? Because that’s the point at which a speaker generates enough bottom end that it no longer sounds small or curtailed. Of course, extension and weight, ▶







► body and presence aren't givens, but at least the system has some meat to work with. The 35XT's large, rear-facing port tells you that its bass is going to roll off pretty sharply, but it also hints at the substance it will deliver within its operating range and that's exactly what you hear. The 15's bass was quick, articulate, pitch secure, and rhythmically informative. The 35XT's bottom end is all that, plus weighty, solid, and outrageously BIG – well, given the compact cabinet. Where the 15's were a perfectly executed miniature, physically and musically, its bigger brother is a real room filler.

Select anything with a deep, fast, and mobile bass line ('Tears Inside' from Art Pepper's *Smack Up* [Contemporary] will do nicely) and you'll hear exactly what I mean. There's a wonderfully tactile attack and decay to the beautifully pitched, paced, and spaced notes of the bass line, with an absolute security of their weight and tone. And this holds in the way they work with the piano, the way you can follow them as a constant presence under the other instruments, the way they maintain the direction and momentum of the track is all perfectly configured. These are genuine corn-fed, free-range bass notes, not the texture-less, processed nuggets served up by most small standmounts.

That sense of purpose and energy extends across the 35XTs' whole musical range, from the stabbing brass of small ensemble jazz, to the breathy intimacy of well-recorded vocals, the sudden attack of crisply hit snare drum to the prolonged harmonic decay of an acoustic guitar. These speakers have an uncanny ability to fasten on the sense of life and presence in a recording and project it into a room. It's a quality that serves them well when fed by modest electronics (Arcam's A19 for example), but it also allows them to grow and thrive in more exalted company. After hearing what the Motion 15's could do on the end of the VTL 450 mono amps, the presence of Audio Research's Ref 10 line-stage and Ref 150SE power amp was too tempting to pass up...

On paper, the price disparity makes this an unlikely combination, but sonically and more importantly musically, it's perfectly valid. Play Don Henley's inspired cover of 'These Days' from the Jackson Browne tribute album, *Looking Into You* [Music Road] and the opening guitar that usually lodges firmly in the right-hand speaker with most stand mounts, steps away from the cabinet, its reverberation revealing the extent of the whole soundstage. Henley's vocal has a natural expressive presence and body, and is beautifully dimensioned and stable. The subtle bass line works the track, the cascading drum patterns have real impact and dynamics. This is one speaker that just gets bigger and better the more you give it, that will play quietly but loves to play loud, and that will surprise you with the musical coherence and insights it brings even to familiar tracks. I'd never really rated Bob Schneider's cover of 'Running On Empty' until I heard it on the ARC/35XT system. Suddenly the measured tempo and melodic extrapolations make sense, the bottom-end locks in and ties it together, while the elongated rhythmic evolutions and that deep, deep, almost flappy bass drum all start to make sense. ►



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## TECHNICAL SPECIFICATIONS

**Type:** Two-way, reflex loaded hybrid loudspeaker

**Driver Complement:** 1 × XT Air Motion Transducer, 1 × 165mm aluminium cone mid-bass

**Bandwidth:** 50Hz–25kHz, ±3dB

**Crossover:** 2,200Hz

**Efficiency:** 92dB

**Impedance:** 4 Ohms

**Dimensions (W×H×D):** 192 × 343 × 300mm

**Weight:** 8.4kg ea.

**Finishes:** High gloss black, white or red cherry

**Price:** £1,298 per pair

**Manufacturer:** MartinLogan Ltd

**URL:** [www.martinlogan.com](http://www.martinlogan.com)

**UK Distributor:** Absolute Sounds Ltd

**Tel:** +44 (0)208 971 3909

**URL:** [www.absolutesounds.com](http://www.absolutesounds.com)



► One downside of the larger tweeter diaphragm is a more restricted listening window – meaning that you need to pay attention to the speaker's rake angle and I found myself inverting the speaker and running it with the tweeter below the mid-bass driver. The good news is that the extra bass also adds up to a slightly fuller and more forgiving balance without sacrificing the lucid clarity and natural sense of musical organisation that characterised the Motion 15, making the 35XT an easier speaker to partner, especially with solid-state amps. Experimentation is the name of the game here, but put the effort in and this unassuming little speaker has the capacity to startle and excite in equal measure. The 15s were capable of remarkable performance, especially in smaller rooms, but give the

35XTs a little extra space (and especially if you can give them a lot of extra drive – in quality terms that is) and they simply blow their little brothers away.

The MartinLogan Motion 35XT succeeds in ticking pretty much every box on the small-speaker wish list: easy to drive and easy to live with, but can really grow with your system, a sound that is detailed and open but also genuinely solid and musically convincing, and a speaker that is entertaining and informative at the same time. The perfect alternative for the high-end music lover looking for a second system or stand-in, it's also the hair-shirt audiophile's starter speaker *par excellence* – except that it might just embarrass the speakers in more than a few big, high-end systems and lacks the basic appearance so important for budget-esoteric credibility. Let's face it, speakers this pretty (and this affordable) really shouldn't sound this good, be this engaging, or this much fun. Like lightning striking twice in the same place, it upsets the natural scheme of things! +





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# Graham Audio LS5/8 loudspeaker

by Nicholas Ripley

**T**he LS5/8 was one of the last great loudspeaker projects of the BBC Research and Development team, dating back to the late 1970s. It was designed to reflect the increasing need for a large, high-level monitoring speaker for the studio.

This was at a time when 'Auntie' had to drag itself kicking and screaming into the late 20th Century and couldn't just rely on smaller, low-level monitors designed for speech. The Beeb needed loudspeakers that worked with rock as well as classical.

Porting the BBC-derived LS5/8 into the 21st Century is not an easy task, even if polypropylene cones and one-inch dome tweeters are commonplace now. The basic parameters of the loudspeaker drive units are very different today, and the

original LS5/8 was an active design, and a passive crossover was something of an afterthought. To revive this design in 2015's audiophile domain needed some considerable thought. Fortunately Graham Audio is prepared to do that thinking, and designer Derek Hughes was the person entrusted with the task.

There is something of a disconnect here. Derek Hughes is the son of Spencer and Dorothy Hughes, who founded Spondor Audio Systems in the early 1970s, and while Spencer was working for the BBC R&D team prior to that, there is no direct link between the Hughes family and later BBC projects like the LS5/9. Nevertheless, Derek is considered one of the keepers of the BBC flame, and if anyone can rework the LS5/8 into a modern context, it's Derek. ▶







*“The LS5/8 is the opposite of fussy, acting instead as a great leveller of electronics.”*

the near field between the two toed-in loudspeakers. This can make them seem like the biggest headphones in history.

The LS5/8 uses a 34mm Son Audax tweeter, once again protected with a metal grille in the Graham Audio design. It couples this with a custom-designed Volt bass unit, similar to the one found in the LS5/9 (another polypropylene-based design), but this time a 300mm unit.

A crossover is a little more difficult. The loudspeaker was originally powered by a modified Quad 405 (AM8/16 in BBC-speak) and later by a dedicated Chord Electronics amplifier, but wasn't thought of as a passive design. However, passives remain popular with domestic listeners around the world, and a passive crossover was called for. Fortunately, Derek Hughes stepped up to the 4mm binding posts. According to Hughes, “Converting an Active to Passive design is not fundamentally too difficult up to a point. The overall objective is to achieve the same target response.” However, he continued, “one complicating factor is that the variation in driver impedance is not isolated from a passive crossover as it is in an active design, which means that simple filter slopes have unexpected variations to be allowed for, especially around unit resonant frequencies.” The problem is compounded because those late 1970s drive units are not available today, “The tweeter, although basically the same model, had some differences compared to the original, so slightly different slopes and equalisation had to be used. The 300mm driver had rather more differences, although Volt worked well with us to make it as close as possible.”

Graham Audio has retained the BBC's ability to make a big loudspeaker that has no need of a big amplifier. The LS5/8 is the opposite of fussy, acting instead as a great leveller of electronics. The differences between a good amplifier and a great one are reduced here. You can still hear deep into the recordings – never forget this project began as a studio monitor – but the choice of amplifier and source device is not so crucial in the delivery of good sound. Typically, designs like the LS3/5a were made with far above average impedance figures, which means an amplifier seldom gets out of first gear. So, most amplifiers never leave their comfort zone, and those amplifiers with power and quality in reserve, never tap those reserves. Nevertheless, it means the Graham Audio can be used with surprisingly modest electronics, even if roof raising is called for. ►

► The new Graham Audio LS5/8 is a passive, single-wired, front-ported, two-way standmount design, featuring traditional bitumenised thin-wall cabinets and bespoke drive units. That's the easy part. The harder part is conveying the size of the things. The 5/8 always was a big loudspeaker, but with years and years of slimline floorstanders, they look even larger than you might recall. The front baffle is extremely large in the flesh and the physical size of the speaker is somewhat imposing. With an internal volume of 109 litres, it all but dwarfs the 28 litre LS5/9 model from the same company, and towers over the five-litre LS3/5a. Nevertheless, it's not a heavy loudspeaker (thin walled cabinet, remember?), and the Something Solid-like stands are rigid enough to keep the speakers in check. The two speakers, stacked side on side, would fill about three quarters of a doorway, though.

They also need a lot of space, both around them and between them, in order to work at their best. They need at least a metre from the side and rear walls and about three metres from acoustic centre to acoustic centre. Fortunately, they work extremely well firing across a room, with the listener sitting in



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sets of the excellent BlackPod Ceramic Footers and three sets of Ceramic BlackPod with TC Ball, designed to sit under any audio electronics. Mad Scientist's BlackPod Ceramic Footers were reviewed in issue 124 of *HiFi+* by Nicholas Ripley, who described them as "...a solid Oreo with a filling of Black Discus, with one face of the Oreo sandwich containing a ball made of one of three materials: Alumina ceramic, Zirconia ceramic, or Tungsten Carbide cermetal." Ripley concluded the review by strongly recommending the Mad Scientist Audio products, and six lucky readers will discover just why he liked them so much when they receive a set for free! +



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- C. Athens

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**The competition will run from August, 6 2015 until October, 8 2015.** The Mad Scientist Audio competition is open to absolutely everyone, but multiple, automated, or bulk entries will be disqualified. The winner will be chosen at random from all valid entries, they will be contacted via email (where possible), and their name will be published in the magazine.

The Editor's decision is final and no correspondence will be entered into. Absolute Multimedia (UK) Ltd. is compliant with the Data Protection Act and UK laws apply. Our policy is such that we will not pass on your details to any third party without your prior consent.



*“The LS5/9 puts you in the control room, while the LS5/8 puts you in among the musicians.”*

► The LS5/8 is unique among big thin-walled standmounts, such as the Spendor SP100R2 and the Harbeth Monitor 40.2, because it's a two-way (the others at this level all feature a midrange cone driver). This has advantages and disadvantages; the integration between treble and bass is usually better handled on a two-way, but a good three way has a more open sounding midrange as a result of having a dedicated driver working in that sector of the frequency response. So it is here; there is a sense of effortless integration across the frequency range, in the manner that only one cone and one dome can provide, but there is a slight hardening at the limits of the bass driver that comes across on massed male voices. Rutter's Requiem [Reference Recordings] highlights this perfectly – the scale and dynamic range required to let a choir breathe and sound like a choir is beautifully retained, but there is a mild 'edge' to those male voices that is like a step between their middle and upper registers. On a lone voice, or on any instrument you weren't intimately familiar with, you would probably not notice this hardening of the vocal cords, but with many singers, it's noticeable. If anything, this mild hardening is pronounced because of the absence of flaws through the rest of the speaker's performance envelope.

The LS5/8 is extremely smooth across the midrange and bass, with an effortless dynamic range that only a big, easy-driving bass unit can bring. In the context of a medium-sized listening room, it's as full-range as you'd like to go (those last few notes of a piano's keyboard come at the expense of a larger room, and typically a lot of room treatment). Curiously, the LS5/9 from the Graham Audio stable delivers more bass, despite it being built into a smaller cabinet, but the LS5/8 presents what it has in a more balanced manner: the LS5/9 puts you in the control room, while the LS5/8 puts you in among the musicians.

Perhaps the most noticeable difference between the LS5/8 and its smaller BBC brethren is the big speaker's abilities to raise the roof. These loudspeakers play louder than other BBC designs, not to headbanger levels (although the combination of large loudspeaker with big bass and plenty of dynamic range playing at a reasonable lick is impressive) but with a sense of scale and drama that is viscerally exciting. I think this can all be summed up in the words 'musically authentic'; you get the sense of floorboards creaking beneath

## TECHNICAL SPECIFICATIONS

**System:** Two-way reflex-ported standmount loudspeaker

**Driver compliment:** Son Audax 34mm tweeter,  
300mm Volt polypropylene mid bass

**Cabinet:** Thin wall construction (critically-damped)  
Birch plywood

**Frequency response :** 40Hz-16kHz +/-3dB

**Crossover:** 1.8kHz, 19 Precision Elements, HF 18db/oct,  
LF 12db/oct

**Nominal Impedance :** 8 ohms

**Sensitivity :** 89dB SPL (2.83V, 1m)

**Maximum Output :** Over 110dB for a pair @ 2m

**Finish:** Teak or Cherry Wood Veneer

**Dimensions (HxWxD):** 76x46x40cm

**Weight:** 34kg

**Price:** £6,995 per pair (Cherry finish, £7,295 per pair)

**Manufactured by:** Graham Audio

**URL:** [www.grahamaudio.co.uk](http://www.grahamaudio.co.uk)

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a fast-paced kick drum, of rosin flying off a fast moving violin bow, of Jaco Pastorius playing a real fretless Fender bass, and of a singer standing up to a microphone. A lot of other loudspeakers make this sound like a simulation of these events taking place, the Graham Audio LS5/8 makes that seem like the musicians are really there. Slight midrange hiccup aside, this does all you want from a monitor loudspeaker, and yet without the kind of fatigue commonly associated with monitors retasked for home use.

In some respects, BBC-derived loudspeakers are the easiest products to review. If you like the sound of one, you like them all – they just get bigger, capable of going louder, with deeper bass, and more dynamic range. The port changes the parameters, and a 100+ litre ported loudspeaker with a 300mm drive unit is never going to sound quite as fast and as lithe as a five litre sealed box with a 110mm 'bass' driver – but the basic character is retained across the board. And that's what you have here in the Graham Audio LS5/8. It is a loudspeaker that perfectly follows the BBC legacy and heritage. This is a loudspeaker that might have forever been hidden away from public view and the last of the line of BBC speakers could have just been a footnote in audio's history. Graham Audio deserves great credit for bringing these classics to light. +





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# Nordost Odin 2 cable system

by Alan Sircom

**T**here are other cable systems that cost more than Nordost's Odin, but none of these rivals seem to draw as much fire from the sceptics and cynics. Odin is the most visible high-priced cable system in audio, and now Nordost's new Odin 2 raises the bar... and the price. I can almost hear the sound of pitchforks being sharpened and torches being lit.

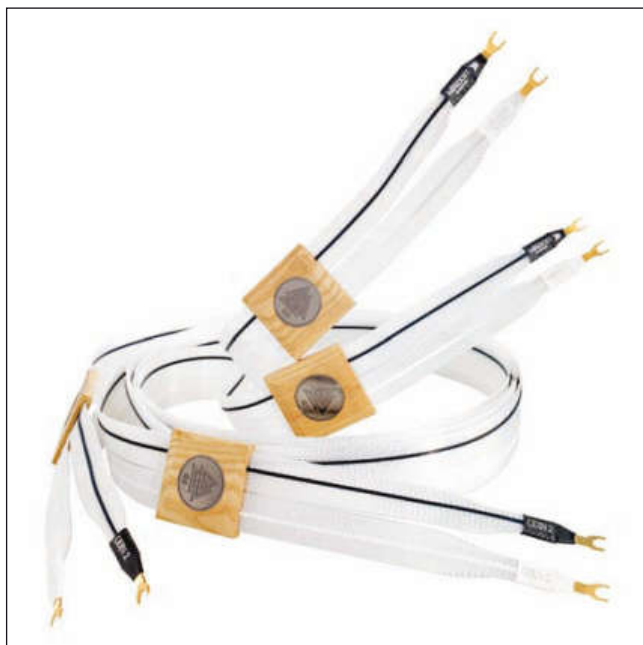
Odin 2 was possibly the worst kept, most blindingly obvious secret in audio. Nordost has been systematically improving its lines for several years, starting with Leif and the Norse 2

ranges, and most recently with Valhalla 2 (tested in *Hi-Fi+* issue 112). Given that Valhalla 2 improved the performance of Valhalla to a point where the difference between Valhalla 2 and Odin was beginning to blur, the development of an Odin 2 was almost inevitable.

The problem is you don't just 'update' Odin. The original Odin cable system from 2008 already set a high standard of attention to detail and uncompromising focus on getting a signal from source to speaker with the least possible compromise. Where do you go from there? Fortunately, the ▶







► key to this was the design and development criteria that went into turning Valhalla into V2, blending that with what set the original Odin apart from the first version of Valhalla, and then adding Odin 2's technological distinctiveness in its own right.

The principle element taken from Valhalla 2 is the HOLO:PLUG terminator for phono, XLR, power, and spade connectors. The HOLO:PLUG is designed to create an optimum interface between cable and component, with precisely aligned 360° low eddy current terminations for each conductor in the relevant cable, a rear termination grounding ring, and sophisticated vibration control. This means that the individual HOLO:PLUG must be designed in tandem with the specific cable, so there are no components shared between a Valhalla 2 phono plug and a Odin 2 phono plug. It also means that building the individual cables is a slow, specialist, and painstaking task. But, the path to perfection is paved with such dedication. The one missing element from the HOLO:PLUG list (at the time of writing) is a 13A UK plug, and fellow traveller in the Nordost bus Quantum has produced a new fused version of its Qbase with Schuko sockets that will get the job done, thereby limiting the number of Furutech UK 13A sockets. The HOLO:PLUG carbon-fibre IEC socket, together with Schuko and US wall plugs are available in HOLO:PLUG form.

The element taken from Odin was its Dual Monofilament layout, which is also now featured in Valhalla 2. A precision double-helix of Fluorinated Ethylene Propylene-wrapped

monofilament cables itself encased in a further layer of FEP, in Odin 2, the individual conductors are formed of a number of silver-plated high-purity solid-core copper strands. The actual thickness and number of individual strands that make up a single Odin 2 conductor vary according to their ultimate purpose, and the composition of a Valhalla 2 conductor for a specific cable may have little in common with the make-up of an Odin 2 conductor in the same situation.

Since Norse 2, and especially after Valhalla 2, Nordost has placed increasing significance on making sure the mechanical properties of a cable are optimised to a degree of precision that borders on the obsessive. In Odin 2, however, it crosses that border and marches on Compulsville. Odin 2 features what Nordost refers to as TSC, or Total Signal Control. TSC comprises additional shielding and spacing tubes, most easily seen in the black and white tubes separating the paired cable sets on the 'send' and 'return' conductors. These help create an optimum mechanical positioning for the individual conductors in each cable. The wooden resonance/serial number blocks are retained from the original Odin: the branded name, numbers, and direction indicators are now joined by a metal circle (with the three sets of interlocking triangles that make up the Odin rune) set into one side of each block.

Although Odin 2 should be considered as a complete system because of its gestalt totality, it's wrong to lump the various cables in Odin 2 together as one. This is because Nordost Odin 2 is not isomorphic. In an isomorphic cable ►



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*“Odin 2 makes it all but in context of cheaper audio equipment*

► family, the same layout is used to develop loudspeaker cables, interconnect cables, and power cords. Nordost instead develops a series of different designs that apply specifically to the task in hand, but are calibrated through rigorous listening tests to work together. As a result, the power cord uses 7×14 AWG solid-core wires per conductor, the analogue interconnects use 10×23 AWG wires per conductor, and the loudspeaker cables 26×20 AWG wires per conductor.

While there are also tonearm cables, digital interconnects (no USB as yet, however), and bi-wire jumpers in the Odin 2 range, we concentrate on the core elements: power, interconnect, and speaker cables. We also went with spade connectors rather than 4mm banana plugs for loudspeakers. Wilson Duette S2’s don’t eat bananas. With the single Furutech 13A plug reaching to the wall, the cable to the speaker terminals was pure, unadorned Odin 2. We also had identical lengths of Valhalla 2 to compare and contrast, as well as some top-end rivals. Our runs of Odin 2 were fully conditioned with one of Nordost’s VIDAR burn-in conditioners.

Valhalla 2 shifted the goalposts. Although it was priced between Valhalla and Odin, Valhalla 2 came dangerously close to the performance of Odin, and Odin 2 is Nordost’s response. Odin 2 is, to use a touch of British understatement, ‘a bit good’, in that while you listen to V2 and think it’s outstanding in its absence of tonal character, if you compare the cable to Odin 2, Valhalla 2 almost sounds ‘broken’. And given V2 already made most other cables sound arch and similarly ‘broken’, Odin 2 makes it all but impossible to listen to lesser cables, even in the context of cheaper audio equipment.

This is a conceit to reviewing, because putting around £100,000 worth of cable in a £10,000 system is likely only ever going to happen in a reviewer’s listening room, but the odd thing about Odin 2 is it makes such a system appear understandable and logical. The £10,000 system produces a more integrated, coordinated sound as a result of the Odin 2 upgrade, making that system hang together in the way most systems at the price don’t. It also makes the system more



receptive to the improvements brought about by Nordost’s Sort Kones, Sort Füt, and other devices with similar intent.

takes place with Odin 2 means I can’t quite bring myself to cancel the idea of that seemingly cable-heavy system out as ‘unrealistic’, because I can envisage someone perfectly content with their system as it stands wanting to bring out the best from it, and ultimately settling on Odin 2 as a logical extension of that process. In reality, someone settling on Odin 2 is extremely likely to be using a system that uses £10,000+ components as a bare minimum, rather than a £10,000 system. But while I understand that intellectually, having spent a considerable amount of time listening to Odin 2, I can’t shake the idea that if that £10,000 system was made up of the devices that went really well together, Nordost’s Finest would just tie that system together better than almost anything else on the market, all other things being equal.

So, precisely what does Nordost Odin 2 do that makes it so exceptional? Nothing. It does nothing to the sound of your system, but it does nothing better than almost every other cable out there. You quickly realise just how active that ‘nothing’ really is, which means mixing your mythos – out go Norse gods and in comes Buddhist metaphysics – and Odin 2 is like a Rinzaï Zen monk meditating on ‘Mu’ or ‘nothingness’. The devices in the system are unconstrained by Odin 2 to a point that even cables like Odin and Valhalla 2 are unable to attain. ►



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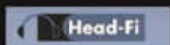
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## TECHNICAL SPECIFICATIONS

### Cables as tested:

Nordost Odin 2 Supreme power cord: £13,599/1.5m

Nordost Odin 2 Supreme interconnect cables:  
£19,999/1.5m RCA pair

Nordost Odin 2 Supreme loudspeaker cables:  
£43,399/4m terminated pair

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URL: [www.nordost.com](http://www.nordost.com)

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► All this sounds like pretentious nonsense, but spend time with Odin 2 and how its calming ‘absence’ nature influences both the system and the way you interact with that system, and you will understand why this ‘nothingness’ is crucial to good sound. You also might discover how the regular audiophile vocabulary is past its limits when trying to describe Odin 2’s performance thresholds. And ‘performance thresholds’ is possibly the best description of where Nordost Odin 2 exists. Alongside a very select list of rival cables, Odin 2 takes your system to new levels of performance you might not have thought possible: in this respect, it’s like listening to great old recordings played back on top-notch new equipment – you end up asking yourself, “did they know how good this is when they made it?” Odin 2 does that to both music and the equipment upon which that music is played.

Bringing this down to single musical examples seems like a constraint in its own right. Describing Odin 2 in terms of “the soundstage width...” or “Beck sounded like...” seems like defining a camera by its strap or the tree you photographed. More importantly, it seems like breaking down something best experienced as a whole into its component parts, and (staying with Buddhist thought a while longer) the parable of a group of blind men trying to describe an elephant seems relevant here. The whole is comparatively straightforward – “it’s your system, only better” – while the sum of the parts is a complex list of tick-boxes in terms of imagery, detail, dynamics, leading-edge attack, trailing-edge resolution, articulation, solidity, and transparency. All of these things are improved, and improved relative to the system you are using. So a system that throws out a wide soundstage will either deliver an even

wider soundstage or a more solid soundstage depending on what your components are doing. You can hear more of the recording, too, but not in a hyper-analytical way (unless your system is designed for such hyper-analysis) and yes, Beck sounds more like you would expect Beck to sound on his pained-yet-brilliant *Sea Change* album [Geffen]; more broken, more emotional, and more melancholic. I’ve not singled Beck out here; what applies to alt-rock acoustic guitar noodling works just as well with an orchestra in full throat, or a taut small combo playing modal jazz. Most other cables at best ‘tease’ out the musicianship of people at the top of their game playing together, but Odin 2 simply has more in reserve and makes this a natural part of the audio replay process. What strikes you when pulling back from Odin 2 is just how rare and fleeting such honesty and integrity to the recording really is in the cable world.

All the usual audiophile clichés apply, so I’m not even going to spout them. Pick the one you like the best and it fits here. Pick another, and that also applies. And yes, the *Hi-Fi+* trope of using a complete cable family works too – I’m trying to consciously avoid using the words ‘coherent’ and ‘loom’ together, but sadly it fits. From the power cord on out, Odin 2 just dresses the system in its Sunday finest, and keeps it there.

In short, Nordost’s Odin 2 doesn’t just push the envelope of how unforced audio can sound through a cable; it breaks the sound barrier. Nordost’s original Odin set high standards for cables, whether viewed individually, or in ideal circumstances taken as a complete system. And Odin 2 takes that to another level. The best that became ‘one of the best’ has just returned to its place at the head of the table. Wow! +



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# High Resolution Technologies dSp and i-dSp headphone Digital Sound processor

by Nicholas Ripley

**H**igh Resolution Technologies is no stranger to making high-performance, low cost USB audio devices, but these typically connect a computer to a traditional hi-fi system. That world is changing: AudioQuest's popular DragonFly points to digital audio world where portability and headphone use are uppermost. The new dSp from HRT (TLA — three letter acronyms — is the rule here) simply extends that concept to its logical conclusion.

The little red plastic dSp is designed not only to work in a conventional USB setting (it is compatible with Chrome OS, Windows, and Apple OS X), but also works with Android smartphones and tablets. There is also an iOS version, which is predictably in white and predictably called i-dSp. The Android version runs under Lollipop (version 5.0 of the Android operating system) and some devices running the earlier KitKat (version 4.4) OS, if audio is enabled in the USB host stack. Put another way, any Android device released in the last year will definitely work with the dSp, and any Android device released after

the moment is the inclusion of DSD, 24/96 seems a perfectly acceptable compromise under the circumstances. And those circumstances mean the dSp is the first DAC that can work with Apple's rigid power output restrictions.

Technically at least, no device connected to an iDevice should drain the battery on that Apple product. HRT gets around this by cleverly using extremely low power consumption. It draws about as much juice as a card reader, and yet provides both better conversion and more gain than a standard iPod, iPad, or iPhone. All this being said, the conversion within a standard iDevice is

red one has a Micro USB socket, whereas the white has a full-size USB port

However, if you have an older iDevice with the 30-pin connector, you can use





*“Normally, Philip Glass gets grating by about Stevenage and I reach for something else, but I got all the way to Doncaster.”*

- digital conversion seems to take place on Android devices. European users of smartphones in particular are prevented from playing their music very loud thanks to Brussels-based bureaucrats, but the DSP gets around this problem because it's not a phone; it just connects to a phone.

If you've seen the portable headphone amps and DACs either on the pages of *Hi-Fi+* or on the HeadFi forums, you'll know most of them are as big as the phone they connect to, run on an internal battery, and can drive torturous headphone loads. They also typically cost hundreds. The dSp is none of these things – it's just a good little DAC/amp to give a slight boost to a pair of regular unprepossessing headphones or earphones. No special tricks and no extra controls to handle – the volume and audio selection is controlled from the host USB device. You need to remember to silence your reminders and alerts though, because they can come through loud and clear through the headphones.

Essentially, the dSp is your phone's sound, only better. The overall sound is direct, focused, precise, and coherent. Not massively so, but the dSp provides several small steps in the right direction. Bass in particular is more controlled, with better drive and energy, especially on full-size headphones with relatively big diaphragms to move. I've been warned off using too much inaccessible 20th Century music, but this did help make playing Philip Glass *Glassworks* [Sony] on a regular train journey to Leeds far more contemplative than I expected. Normally, Philip Glass gets grating by about Stevenage and I reach for something else, but I got all the way to Doncaster without struggling with the repetition. That's a first!

Vocal articulation is also extremely good, and when playing through headphones one gets an 'up close' view of someone's vocal talents – the more definition you can hear, the better in most cases. I played 'Mirabai Songs' from Barber's *Knoxville: Summer of 1915* [Nonesuch] and Dawn Upshaw's soprano shines through. Her voice is already incredible articulate, but the dSp just brings out her diction still further.

The dSp is especially good with Android devices. I suspect this might be due to Apple keeping a tighter rein on the electronics inside an iDevice; Android having a broader set of hardware options means some Android devices turn in an outstanding audio performance, and some don't. I think I might have encountered one of the "don't" models, because the improvement brought about by the dSp was more marked that it was on an Apple device, even with the aforementioned kludge cable connection.

What I like about the HRT dSp is that this gives smartphone users a flavour of what good headphone audio can do on the move without either great expenditure, or strapping something as large as your phone to your phone. This is the perfect travel buddy; it has all the appeal and weight of a Lego brick. But best of all, you attach it into your iPad, plug a decent



## TECHNICAL SPECIFICATIONS

**Connections:** USB 2.0 socket (micro USB with dSd), 3.5mm headphone jack

**Compatible formats:** MP3, AAC, FLAC, ALAC, PCM, Windows Lossless (dSd only)

**Maximum sample rate:** 96kHz

**Maximum bit depth:** 24-bit

**Compatible operating systems:** Chrome OS, Microsoft Windows, Apple OS X

**Compatible devices:** iPhone 5 and 6, iPod Touch, iPad Mini and Air (with Lightning connector), Android devices running Lollipop OS, and most KitKat OS (with audio enabled on host USB)

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pair of headphones into the dSp and your train or air journey just got a little better and a little bit louder. I'm no headbanger, but the volume limits on smartphones in Europe can get restrictive especially when in the air, and the extra oomph of the dSp (in both flavours) is hugely beneficial. At £79, it comes strongly recommended. +



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# Magnum Dynalab 'signature' tuner upgrades

by Alan Sircom

**T**his is a little odd as far as reviews go, because it's a review of an upgrade of products, rather than the products themselves. However, as we've already given a lot of column inches over to the Magnum Dynalab tuners upgraded by these circuit boards, it's perhaps not so odd as it first seems.

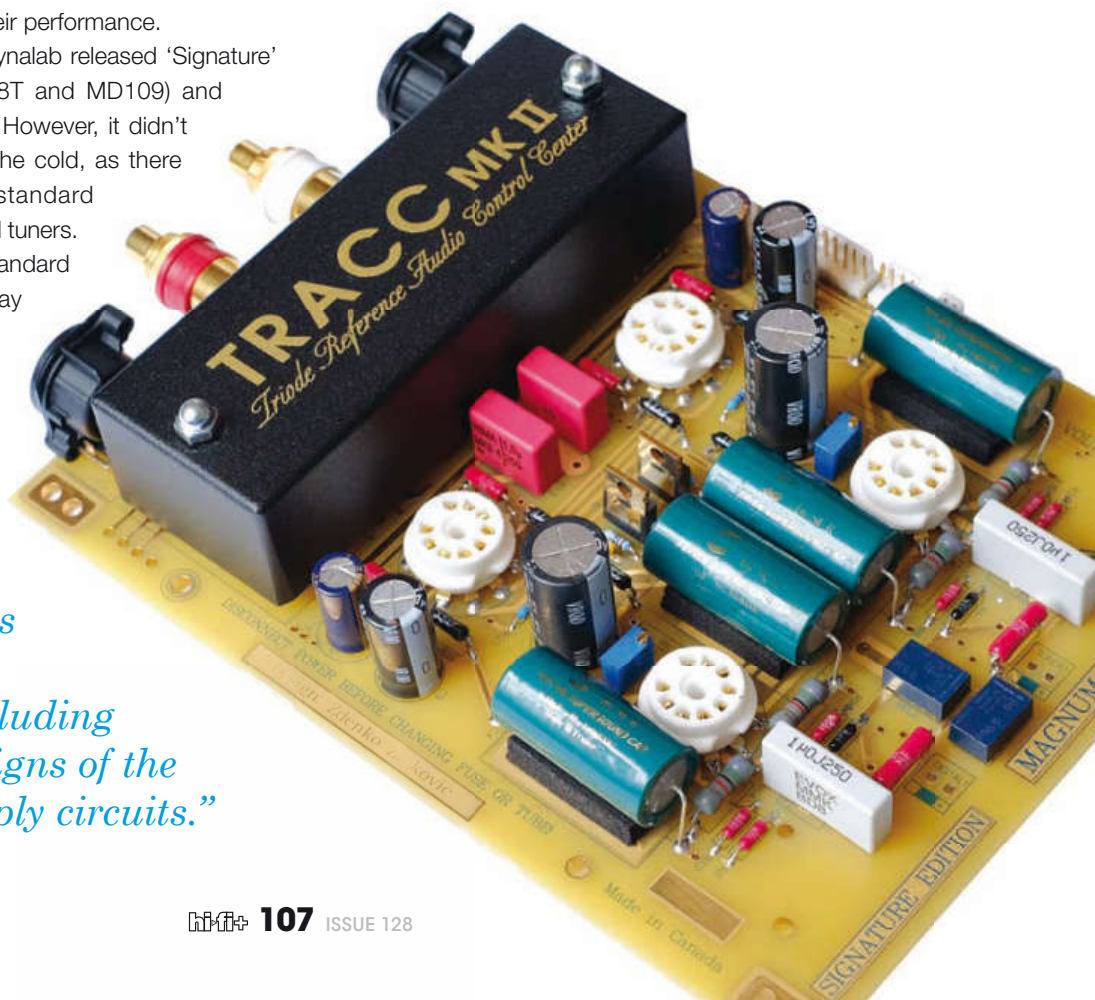
In fact, this is not a new thing for Magnum Dynalab. From the outset, Magnum Dynalab has offered multiple upgrade options to owners of its products. It has always been possible to modify Magnum Dynalab's tuners (from the early FT-101 onwards), bringing older designs as close as possible to the current specification and performance of later variants of the model in question. That upgrade path doesn't change. However, this is slightly different: instead of reinvigorating an older tuner with newer 'innards', this Signature project allows users of current tuners to raise their performance.

In May this year, Magnum Dynalab released 'Signature' versions of its analogue (MD108T and MD109) and Internet media (MD809T) tuners. However, it didn't leave existing customers out in the cold, as there are upgrade packages for standard versions of these popular high-end tuners. Theoretically, you could buy a standard version of one of these tuners today and upgrade to 'Signature' status at a later date, but economically

speaking, this doesn't make a lot of sense: the Signature upgrade costs £1,990, while ordering a Signature version of the MD108T, MD109, and MD809T adds £1,500 to the respective prices of the standard models, which will continue to be available.

The Signature upgrade kit replaces two-thirds of the tuner internals, including completely new designs of the multiple power supply circuits and the crucial analogue output audio boards. In fact, all that remains from the non-Signature product is the chassis, mains transformers and the FM front-end module for signal reception; or, in the case of the MD809T, the streaming and Internet tuner module. All the rest of the tuner is completely new. ▶

*"The Signature upgrade kit replaces two-thirds of the tuner internals, including completely new designs of the multiple power supply circuits."*







  
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*“Magnum Dynalab tuners are also remarkable at extracting good radio moments.”*

- Actually ‘new’ isn’t necessarily the right term, because each ‘Signature’ tuner uses a set of rare and newly discovered, specially selected, NOS (new old stock) Telefunken E88CC valves, which have been cryogenically treated, which should deliver better performance and reliability from already highly rated classic valves. Nothing in the modern hollow-state world comes close to these classic valves. Everything else in the ‘Signature’ upgrade is brand new.

In essence, the Signature upgrades are wholly new analogue audio and power supply boards. Zdenko Zivkovic, Magnum Dynalab’s in-house designer, has completely redesigned and in the process improved both stages. In the analogue audio boards, this involved implementing a new valve biasing solution within the proprietary TRACC MkII module, as well as sourcing significantly better passive and active components (such as Mundorf Supreme and Teflon by-pass capacitors) in the audio signal path. Meanwhile, the power supplies for the FM front end, analogue audio, and ancillary circuits have been redesigned from scratch, with solutions that give much lower noise levels and cleaner frequencies within the voltage and current required for the active segments of each tuner. Again, with the exception of the two mains transformers (one for the audio circuits and other for the rest), virtually every component on the power supply motherboard has been improved relative to the standard version.

A/B demonstration is very difficult for two understandable reasons. First, you need to have a standard and Signature tuner side-by-side, and these tuners don’t tend to hang around long enough to have two similarly run-in models available for comparison purposes. Second, radio is a fast moving stream, and you won’t be able to listen to the same piece of music twice for comparison purposes, unless you have your own FM station... or a time machine. That being said, the internet-enabled MD809T does allow you to stream the same music from your server, but they are still too rare for there to be two in the same room at the same time. Nevertheless, the upgrade from standard to Signature tuner is large enough to be noticeable, even after a protracted absence while the tuner is upgraded.

Magnum Dynalab’s tuners are already currently the best FM you can get, so the Signature upgrade has some big shoes to fill. Frankly, any improvement brought to these

## DETAILS

**Upgrades for:** Magnum Dynalab MD108T, MD109, and MD809T

**Price:** £1,900 (Signature versions of tuners bought new adds £1,500 to standard prices)

**Manufactured by:** Magnum Dynalab

**URL:** [www.magnumdynalab.com](http://www.magnumdynalab.com)

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**URL:** [www.audiofreaks.co.uk](http://www.audiofreaks.co.uk)

**Tel:** +44(0)208 948 4153

tuners could be likened to Usain Bolt trying to shave a couple of hundredths of a second off his 100m record – nothing and no-one else comes close, but there is always room for improvement. The end result of the Signature upgrades is a sound that gives an even more holographic presentation of good FM broadcasts, better low frequency extension, overall improvement in natural transparency throughout the audible frequency range, and a more solid and full-bodied sense of dynamics both in speech and music. This makes a lot of sense when listening to productions like BBC Radio Three’s Proms season or Radio Four’s often-fascinating weekday at 11am audio documentaries, because these are often some of the least interfered-with radio moments on the airwaves. But the Magnum Dynalab tuners are also remarkable at extracting good radio moments from almost any station (even compressed prime-time music stations don’t sound quite as vexatious through a decent system), and the Signature versions help raise the audio quality still further.

The only downside to the Signature upgrade (for existing owners) is the upgrade cannot be fitted by the end-user, and you have to wave goodbye to your tuner for a short while. The retro-fit upgrade can be performed by Audiofreaks’ own engineers, however, so the tuner does not need a return ticket to Canada, and you don’t end up with months without a tuner. Audiofreaks suggests the turnaround time is ‘fairly quick’, if you get in the queue fast enough...

Magnum Dynalab has stayed true to the path of making the best tuners it can, and its tuners are incontestably the best sounding FM devices you can buy at this time. The Signature upgrades, then, take already great tuners and make them better in almost every way, because the upgrades improve two core sections of these devices. Form an orderly queue... +



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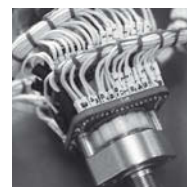


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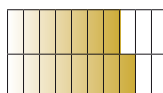
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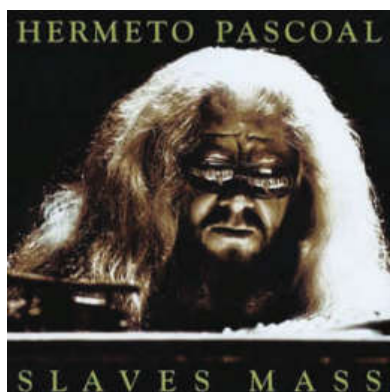
## How To Read Them

The ratings at the bottom of each review reflect the reviewer's opinion of the recording quality, and musical merits of the album. You'll soon realise that a great many musically significant albums offer less than wonderful sound. Don't let it put you off! For your information, the scale rates a standard, good quality pop recording as slightly below average.

**SM** – Simon McEnery







## Slaves Mass

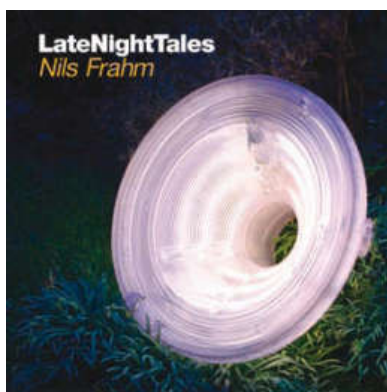
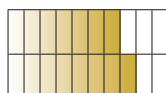
Hermeto Pascoal

Warner Bros./Pure Pleasure

Pascoal is something of a Brazilian Zappa, a self taught multi-instrumentalist and composer who released his first album in 1961. He gained an international audience in 1970 when he recorded with Donald Byrd and Miles Davis, among others, contributing three pieces to the latter's *Live Evil*.

His breakthrough album *Slaves* Mass dates from 1977 and features highly regarded Brazilian musicians including Aírto Moreira, Flora Purim, and Raul De Souza. It's an unusual fusion of jazz, folk, and experimental styles; one track features spoken word at normal and high speeds behind a rather fine flute solo, while another incorporates pig squeals (he was apparently keen on animal as well as water sounds at the time).

What pulls it back from the edge of mayhem is the avoidance of discord and the sheer inventiveness of the compositions. Offering high quality musicianship and some relatively easy listening with tracks like 'Cherry Zone', Pascoal's music has been influential, especially on the likes of Weather Report and others in the jazz rock zone. Sound quality is about par for its age and origins, and PP has done a great job in pulling out the space and detail that makes it intelligible. **JK**

RECORDING  
MUSIC

## Late Night Tales

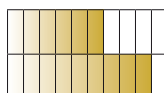
### Nils Frahm

### Various Artists

## Late Night Tales

Nils Frahm kicks off this latest Late Night Tales mix with his interpretation of John Cage's '4:33', a piece infamous for being simply silent for the eponymous duration of four minutes and thirty three seconds. Frahm starts off in silence, but it's not long before he is weaving his magic on the keyboard and accompanying this with ghostly sounds of no clear origin. A fascinating journey begins that takes in the ancient and the new, jumps from Miles Davis to Victor Silvester, and Four Tet to Gene Autry – it's eclectic in the full sense of the word. Despite the disparity of styles and sounds, Frahm's additions (which vary in degree from dramatic to nonexistent) manage to give the 23 pieces gathered here a cohesiveness that you would not expect.

His treatments often include a worn vinyl effect that actually seems to enhance normally pristine pieces and indeed perhaps it's the grainy 'faults' of that format that have kept it alive as much as any other quality. He also occasionally uses speech, including the voices of poet Ishmael Reed and actor Cillian Murphy. Ultimately, this is a fascinating exposé of the tastes of a remarkable artist, one that unearths musical gems that few of us will have previously encountered. **JK**

RECORDING  
MUSIC

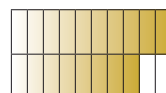
## Big Band Spectacular!

The Syd Lawrence Orchestra

## Chasing the Dragon

The best sounding vinyl release last year was Mike Valentine's direct-to-disc (D2D) cut of *The Four Seasons*; this year he has turned his attention to (slightly) less ancient material and added a twist. The latest release on his Chasing the Dragon label puts the same music on two discs, but one is pressed from a D2D master while the other is derived from analogue tape: it's an audiophile experiment in which we can all join.

The music consists of eight pieces from the big band back era, the creations of Glen Miller, Artie Shaw, and Benny Goodman played live at Air Studios by the 16 strong Syd Lawrence Orchestra led by Chris Dean. Both discs sound extraordinarily vibrant, alive, and real, and if the comparison between tape and D2D wasn't so instantly available you would be more than happy with the tape based version that was cut from 24 track, two-inch tape mixed down to half inch tape at 30 IPS. But putting on the D2D reveals just how incredibly natural, warm and effortless vinyl can sound at its best. This pressing has a depth and richness of tone that's irresistible, and even seems to 'time' better than its tape-mastered counterpart. Given big bands were all about precise timing, that's saying a lot! **JK**

RECORDING  
MUSIC

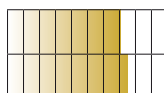


While an array of great musicians take solo turns on the album, the heart of the album is Lundy's interplay with pianist Geri Allen. Spread across two LPs, Lundy concentrates on soulful ballads on disc one, moving into more extended grooves on disc two. Bringing down the pace and closing with Mary Lou Williams' 'What's Your Story, Morning Glory', Lundy reminds us why she has been frequently compared to Ella. Lundy is based in Los Angeles and recorded the session at nearby Firehouse Recording Studios in Pasadena, a woman owned and operated studio. Every instrument is captured perfectly, and precisely balanced within the soundstage. This is a great session featuring excellent sound, and is highly recommended for those seeking a serious contemporary voice in jazz. **DD**

RECORDING  
MUSIC

Lena Horne started out as a chorus girl at the Cotton Club in New York in the early 1930's, but moved on to become a Broadway and film star. She then fell back on her music career when the US red scare and her left leaning politics black-listed her in Hollywood. She reinvented herself as a personality through appearances on TV variety shows. Her recording career was in some ways a small part of Horne's claim to fame, and this is one of her most enduring recordings, made in 1962 for RCA toward the end of a very prolific recording career with that label.

She is backed by trumpeter Jack Sheldon in Marty Paich arrangements and the striking album cover earned the art director a Grammy for best album cover in 1963, while Horne lost out to Ella Fitzgerald for best solo vocal performance. Horne sings a dozen standards, many of them from the American Songbook. Horne's style, if you can call it that, was to invest her heart and soul into everything she did. She brought a sense of bravura to everything she sang. Horne's larger than life presence is heard in every phrase. RCA, Horne's label for much of her career, has done little to preserve Horne's heritage and this release by Speakers Corner helps salvage that situation. **DD**

RECORDING  
MUSIC

Maria Schneider (the musician, not the actress), one of the greatest big band leaders active today, collaborated with Gil Evans after graduating from the Eastman School of Music, followed by time studying with Bob Brookmeyer, another big band legend. Since then she has been active on the New York scene, winning constant Downbeat awards, and gathering positive reviews of her recordings. She founded the Maria Schneider Orchestra, but this is her first recording with that ensemble since 2007.

Despite her New York/East Coast credentials, Schneider was born in Minnesota. *The Thompson Fields*, inspired by that Minnesotan landscape, conjures up visions of the prairie like no composer since Copland, yet retains its jazz character with eight songs counterpointing one or two soloists (different in each song) against the orchestra. Perhaps the most stunning is the title song featuring Frank Kimbrough on piano and Lage Lund on guitar. The CD is housed in a deluxe book and includes a code to access videos and educational material on line. The sound is excellent, and though I wish there was an LP release planned, comes highly recommended. **DD**

RECORDING  
MUSIC





Recorded at Columbia's 30th Street Studio by veteran engineers Frank Laico and Arthur Kendy, this LP, like other Second Quintet recordings, should have had truly superior sound. But for over 45 years, the original and all subsequent reissues have sounded woolly and unfocused. Mobile Fidelity did not have access to the master tape, yet it takes only a few bars of the opening tune to recognize that the damage done on earlier issues was not permanent. Highest recommendation. **DD**



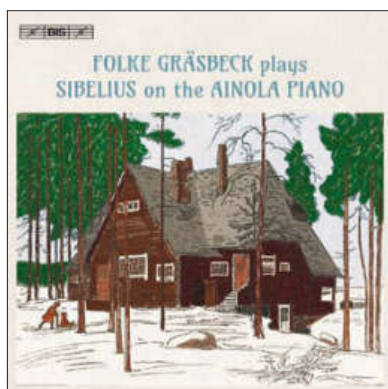
Despite the bombast and conceit, this long-time audiophile favourite sounds outstanding in this 200-gram vinyl edition. Back in the day you needed some pretty heady drugs to make *DSOTM* sound this good, and the stellar line up of musicians, with Jeff Beck on eight tracks, makes for a pharmaceutical-free audiophile amusement ride. The LP surfaces are dead quiet too, allowing you to hear every nuance of cricket chirp and dog bark. **DD**



The first two (Re)Discover releases are from Stealers Wheel, the short lived partnership of Gerry Rafferty and Joe Egan. The first, and eponymous, LP launched the group with its massive hit 'Stuck In The Middle With You.' This, the second, and next to last, album from the group shows more assured song-writing which shared the Leiber and Stoller production, but lacked the hit single to take it, and the group, to the next level. The improvements of the new release over the original vinyl or the Lemon CD (that's a label, not a snide comment) are enormous—so good that it's like you've never heard this music before. The instrumental interplay is so alive, leaving you to wonder why this music didn't sell. **DD**







### Folke Gräsbeck plays Sibelius on the Ainola Piano

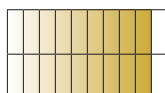
BIS 2132

BIS' series of Sibelius recordings has covered the masterpieces, but also revealed some fascinating works that are less well-known. His piano pieces deserve greater recognition, and Folke Gräsbeck, an acknowledged Sibelius expert, is a fine exponent of them.

On this recording we have some of those obscurer pieces alongside better-known works like 'The Spruce Tree' or 'Souvenir from the Eight Piano Pieces', op. 99. There are also transcriptions of orchestral pieces such as 'Valse Triste', 'Pan and Echo', and even Sibelius's own arrangement of 'Finlandia'. Much like Sibelius' songs, there is often an intense distillation of the depth of feeling you find in the symphonies or tone poems, and this collection reveals this fully.

Gräsbeck has recorded some of the pieces in this programme already, but the interest here lies in his use of Sibelius' own Steinway (given to him on his 50th birthday in 1915), still in Sibelius' home, Ainola (now a museum), and where this was recorded. The sound on this recording is lovely. There is a little bit of an aged quality to the piano, but in the sense of a decent wine rather than any hint of decay. The fact that it's been recorded in a small space simply adds to the feeling of immediacy and intimacy. **SM**

RECORDING  
MUSIC



### Handel - L'Allegro, il Penseroso ed il Moderato

Gabrieli Consort & Players,  
Paul McCreesh

Signum SIGCD392

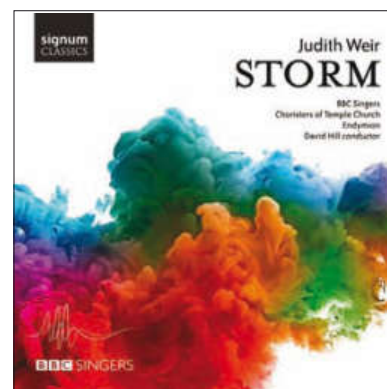
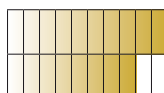
The Gabrieli Consort and Players and Paul McCreesh return to Handel for the first time in a decade, with this recording of Handel's setting of two Milton poems and one by Charles Jennens (il Moderato). It was much altered during Handel's lifetime, so McCreesh has returned to the original version of 1740, with the addition of some concerti that may well have graced that performance.

It's a joy to hear the Gabrielis giving us Handel again. The attention to detail, the vibrant tone, the briskly invigorating tempi, and the seamless ensemble are everything you could wish for. In particular, some of the wind playing is exquisite, but all the orchestral playing is fine.

The choral singing and the soloists are largely excellent. Jeremy Ovenden has the perfect tone and crisp diction for Handel, while Gillian Webster often has the most elegant and creamy legato. The famous 'As Steals The Morn' comes from this piece, and is gorgeously done.

Special mention has to go to treble Laurence Kilsby (a former winner of the BBC Radio 2 Young Chorister of the Year), recorded here shortly before his voice broke, whose singing is mature and stylish. **SM**

RECORDING  
MUSIC



### Judith Weir - Storm

BBC Singers, Endymion,  
Choristers of Temple Church,  
David Hill

Signum Classics SIGCD421

This CD is a retrospective of the Master of the Queen's Music's choral music, from the 'Missa del Cid' of 1988 to 2013's 'The Song Sung True'.

We get the full range of Weir's writing here, from the carefully crafted 'Magnificat' and 'Nunc Dimittis', very much in the Cathedral tradition, to the 'Missa del Cid', a pretty idiosyncratic piece that is nonetheless wildly inventive. Lastly we get 'Storm', a suite based around *The Tempest*, more whimsical than Britten's writing or Adès's take on Shakespeare, though occasionally moving.

It's clear from these pieces what a sympathetic writer Weir is for choir, but the BBC Singers on this recording leave us with no doubt. Their singing is by turns sensitive, rich, and excitingly dynamic. They are joined by Endymion on 'All the Ends of the Earth' and 'Storm', and the spare textures of both pieces work very well with these forces, particularly as recorded in the Temple Church, under David Hill's expert direction, and with the Temple choristers. The warmth of the acoustic probably accounts for some indistinct text in places, but that doesn't detract from an interesting recording. **SM**

RECORDING  
MUSIC







## Shostakovich - Cantatas

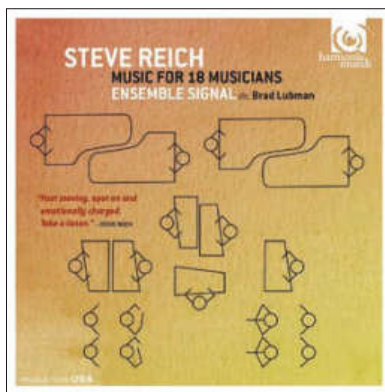
**Estonian Concert Choir,  
Estonian National Symphony  
Orchestra, Paavo Järvi**  
Erato 2564616666

On the face of it, it's intriguing that Järvi and the Estonian National Symphony Orchestra should be promoting these works; at least one of which, 'Song of the Forests', has quite a Soviet pedigree. 'The Sun Shines on our Motherland' also provoked scandal in Estonia when Järvi and the ENSO first performed it. 'The Execution of Stepan Razin', composed in 1964, takes a more critical view, on the other hand.

Musically, the pieces are more epic in scale than you might expect from the title 'cantatas'. The style echoes the Russian opera of Mussorgsky or Prokofiev more than the choral music of Rachmaninov, and the texture of the orchestral writing is easily as dense as that of the symphonies. But the style is more traditionally Russian than, say, *Lady Macbeth of Mtsensk*.

The orchestra sounds terrific, and the singing of the chorus and soloists is largely excellent. However, the tenors don't have an easy run, and the children's choir sings with a little more gusto than accuracy. It would have been even better had the brass and percussion not had a tendency to drown the singers out in the more fortissimo sections. **SM**

## RECORDING MUSIC



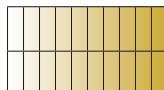
**Steve Reich - Music  
for 18 Musicians**

**Ensemble Signal, Brad Lubman**  
 Harmonia Mundi HMU 907608

It is fifty years since Steve Reich's *Music for 18 Musicians* first appeared, and it is possible now to see how influential and significant a work it is. It seems to anticipate the computerised and sequenced electronic music that followed, but something that is equally striking is the humanity of the piece, both from the emotional or spiritual core of the music, and also in the connection to the breath of the clarinetists and singers. The subtle shifts in the patterns and interaction between the performers are also integral to a successful performance of this work.

There are already a few recordings of Music out there, not least Reich's own original one, but it's hard to imagine a finer recording than this, by New York's Ensemble Signal under director Brad Lubman (and produced by Michael Riesman, director of the Philip Glass Ensemble). The performance is exemplary and the recording crystalline. The textures are all perfectly layered, the playing (and singing) are all gloriously precise and yet never clinical. In spite of the strong sense of the intellectual, and indeed a seriousness, evident here, you can't miss the joy and excitement that Ensemble Signal bring to this thrilling piece. **SM**

## RECORDING MUSIC



## Time Present and Time Past

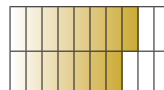
**Mahan Esfahani**  
Deutsche Gramophone Archiv  
Produktion 0289 479 4481 2

This is very much not your standard harpsichord album. Esfahani is clearly keen we should see the harpsichord as an instrument that bridges the divide between the contemporary and the Baroque. His playing is riveting throughout, terrifically dextrous, and occasionally even punkily aggressive.

It is certainly an extraordinary album, with plenty on it to fascinate. It includes Górecki's Harpsichord Concerto op. 40 from 1980, which, though he himself referred to it as a 'prank', has plenty of entertainment value, and is brilliantly performed. Equally exciting is Steve Reich's 'Piano Phase', which is normally, obviously, heard on pianos.

In a more conventional mode, the Bach Harpsichord Concerto no. 1 in D minor is also splendidly played with the Concerto Köln. Less conventionally, it features rather a magnificent Brahms cadenza. The Geminiani Concerto Grosso is also excellent.

It's a real shame, then, that the opening piece (Scarlatti's Variations on 'La Follia') is brilliantly played, but also shows how easily a harpsichord can go out of tune. I can't imagine how it ended up on here. You can even hear a small audible sigh from Esfahani. **SM**

RECORDING  
MUSIC



## Classic Albums Special

# Album of the Month: The Studio Collection – Queen

by Alan Sircom

Sometimes the subject of this collection of must-owned classics drops in your lap. This one was delivered to the door. Queen's significance as an album band is sometimes overlooked, because the quartet achieved early and sustained success in the singles charts, but from the early 1970s to the mid 1990s, the band released 15 studio albums (14 before the death of frontman Freddie Mercury); seven of which went platinum and eight of which went gold in the UK. Although some of these albums are 'classics' only to Queen fans (of which there are millions to this day), albums like *A Day at the Races*, *Sheer Heart Attack*, and especially *News of the World* were hugely popular at the time and remain so today.

Queen was resolutely an 'analogue' band. The group's early 'no synthesisers' rule (which lasted from the band's 1973's eponymous debut until 1980's *The Game*) was backed by a strong sense of identity in the studio. They recorded on multitrack tape, often using some of the best-sounding analogue desks, and after *Jazz* in 1978, recorded at Mountain Studios inside the casino in Montreux. Although Queen's output has long been available in digital form, the band's best loved albums were all released in a time before CD, so it's fitting the 15 studio albums (across 18 discs) should be available as a LP box set.

This has been a five-year project, engaging the services of mastering guru Bob Ludwig, and Abbey Road's vinyl expert Miles Showell. This involved tracking down the best possible surviving sources ('Under Pressure' and five tracks from *Innuendo* were as much examples of audio archaeology as remastering).

Such was the dedication to the project, Queen's surviving members blind tested the work of leading engineers, before settling on Grammy-winner Ludwig. He supervised the inspection process and encoding to 24-bit, 96kHz digital masters, which allowed the restoration process to take place (high-performance tape master correction is performed using a program called Retouch by Cambridge-based company CEDAR, but can only take place in the digital domain, and the technology is capped at 24/96). Following this, the vinyl was cut from these new master files.

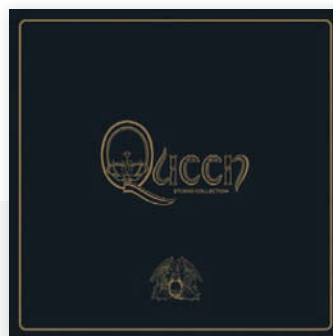
Showell used a Neumann VMS80 lathe, with custom-designed RIAA amplification for the half-speed cut, and the lacquers were checked and rechecked before they were sent to Optimal in Germany for pressing. Optimal was also involved in the development of new pigments for coloured vinyl, ensuring these albums were not compromised by the colour itself. This too was



tested under blind conditions against 180g uncoloured vinyl albums. The colours used on each LP reflects the primary colour used in that album's original artwork.

Queen's last two albums – *Innuendo* and *Made in Heaven* – were LPs cut in the time of CD and it was recommended that they become double LPs for the box set. Also, *Queen II* (which originally had a 'white' and 'black' side instead of A and B) is now spread over two LPs, with artwork embedded into the other side of each disc. A glossy, 108 page book accompanies the box.

LPs remastered in 24/96 are seldom loved by the purists, but the technology used to remove what decades of tape storage can do only exists in the digital domain. Whatever, this will be a lot of fun! +



Queen The Studio Collection  
15 album set on 18 coloured 180g LPs  
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Remastered by: Bob Ludwig





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